THERMAL POWER COMPANY

TO: Distribution DATE: 30 July 1986

FROM: R. A. Patterson R A Patterson

SUBJECT: **Emergency Response Plan - Change 2**

The passage of time and its changes has necessitated an update to the Emergency Response Plan.

Please destroy the previous one and replace it with this new copy.

If there are any questions or if you discover any errors, please contact me at the Honolulu office (808) 524-8940.

RAP/cn
EMGPLCOV

Distribution:

Pittenger	Richard
D'Olier	St. John
Bowden	Nakaji
Kochy	Daniels
DLNR	DOH
HGP-A	WRI
Willocks	
Civil Defense (2)	
Planning Dept. (2)	
Police Dept.	
Fire Dept.	

THERMAL POWER COMPANY

SITE EMERGENCY PLAN

16 July 1986

Change 2

EMERGENCY NOTIFICATION

Site personnel at the Honuaula drill site include one or two guards at all times and brief regular visists to each wellhead by a technical consultant, who reports immediately, by telephone to Thermal Power Company (TPC), any noise, odor, leakage or other abnormal condition of the wellhead and well site.

Unless Thermal Power employee or contractor personnel are present on the well sites, the guards, technical consultant or any other person witnessing any emergency situation should telephone call collect **the first Thermal/PGV representative reachable in the following sequence:**

RALPH A. PATTERSON	Bus. (808) 524-8940	Honolulu
Project Manager	Res. (808) 262-5651	Kailua, Oahu
RICHARD T. PITTENGER	Bus. (415) 765-0302	San Francisco, CA
VP, Operations	Res. (415) 939-3124	Walnut Creek, CA
WILLIAM L. D'OLIER	Bus. (707) 576-7040	Santa Rosa, CA
VP, Exploration	Res. (707) 585-7677	Santa Rosa, CA
R. (BUDDY) BOWDEN	Bus. Hilo Mobile #576 or	
Drilling Supervisor	Bus. (707) 576-7022	Santa Rosa, CA
	Res. (505) 327-6419	Farmington, NM
MAURICE A. RICHARD	Bus. (415) 765-0306	San Francisco, CA
Senior Engineer	Res. (415) 838-2684	Walnut Creek, CA
GEORGE E. ST. JOHN	Bus. (808) 945-8154	Honolulu
Amfac Energy	Res. (808) 623-8935	Mililani, Oahu
MARSHA D. DANIELS	Bus. (415) 399-5224	San Francisco, CA
Dillingham Geothermal		

7/16/86
Yellow

EMERGENCY RESPONSE PLAN

Thermal Power Company (TPC) is the managing partner, or "operator", of the PUNA GEOTHERMAL VENTURE (PGV). Dillingham Geothermal, Inc. and Amfac Energy, Inc. are the other members of the venture.

As a result of the well leak incident in October 1982 and in response to the requirement of condition #5 of Special Use Permit #468, issued by the Planning Commission, County of Hawaii, the Emergency Response Plan has been developed for approval by the Hawaii County Civil Defense Agency. The plan is designed for use when the well sites are not being used for drilling, testing or other field operations and no TPC staff or field operations consultants are present on the Big Island. In the event of an emergency when operations are being conducted, the on-scene TPC manager will take initial charge of the notification procedure and the immediate operational steps to deal with the emergency.

Thermal Power Company maintains a project management office in Honolulu; Amfac has Honolulu offices with knowledge of the geothermal project and the ability to marshall management resources to deal with possible emergencies. In addition, Thermal Power has a small office space and a telephone in Hilo for occasional administrative and logistical functions. The telephone number is (808) 961-3531. Thermal, Dillingham and Amfac also have employees or consultants that reside on the Big Island, although their level of geothermal knowledge varies and they should thus be considered as secondary resources unless specifically identified in this plan.

It is impossible to predict what kind of emergency may occur, or of what severity such events may prove to be. It is important, however, that this plan be used to notify the responsible management of the companies so that the problem can be asessed quickly and the proper mitigating steps can be taken.

Comments, corrections or changes to the plan should be addressed to:

Project Manager
Thermal Power Company
220 South King Street Suite 1750
Honolulu, Hawaii 96813
(808) 524-8940

USE OF THE PLAN

This plan has been assembled for ease of use in situations where information may be scarce, confusion rampant and communications difficult. The following pages are arranged so that the person that finds himself "in charge", by virtue of there being no one else from Thermal Power around, can at least evaluate and notify those persons and organizations that can best deal with the problem.

The steps to be taken in an emergency, after the immediate threat to the lives of people that are on the scene have been dealt with, are:

1) Evaluate the emergency and answer the questions in the guide (pink page 5 of this plan).

2) Determine the possibility of a threat to the general health or safety of the public; if a threat is believed to exist, begin to carry out Plan A (yellow page 6 of this plan).

   If no general threat to health and safety is thought to exist, begin to carry out Plan B (yellow page 6 of this plan).

3) After primary notification, continue to notify the responsible Thermal Power personnel (yellow page 1 of this plan). Notify others on the list, or have someone else do so, as soon as feasible.

4) Manage all PGV personnel on the scene until the arrival of one of the managers on the primary notification list.

WEATHER

Although severe weather is rare on the Big Island, strong wind and rain storms are possible, and the island gets the occasional hurricane or its fringes. Some lightning storms, with potential danger to drill rigs or other metal structures in the open have been experienced in the area. The recorded weather report for Hilo can be heard at either (808) 935-8555 or (808) 961-5582.

ERUPTIONS

The Hawaii Volcano Observatory has established an informational telephone recording for eruption reports. This number is (808) 967-7977. Civil Defense is the best source of evacuation information and/or volcano damage reports.

7/16/86

IMMEDIATE EMERGENCY RESPONSE

The first person contacted, or on-scene, will use the following guides:

GUIDES	PAGE #	TASKS
Pink Page	5	Assess the emergency.
Yellow Page	6	Determine the threat to public safety and act as directed under Plan A or Plan B. Initiate response action.
Yellow Page	1	Contact Thermal/PGV personnel.
Map		
Yellow Page	8	Notify the rest of the emergency contact list.
Appendices		A. Fire and medical evaluation plan B. Site electrical diagram C. Area map D. Media contact list E. Plan Distribution

Priority and judgement in any uncertain circumstances must favor public safety and an early alert of the County Civil Defense office through the County Police Department. The attached Emergency Notification list reflects this priority. If Civil Defense is unavailable, the Chief of Police will be contacted directly. Because Civil Defense will take control of the situation if the emergency threatens public health or safety, one or two alternate emergency plans described on page 6 will follow the assessment of the emergency.

7/16/86

QUESTIONS TO ASSESS THE EMERGENCY

1. General physical description of situation? location? size?

2. Any peronnel injuries?

3. Any fire on site? off site? Any idea of cause? (oil, brush, etc.)

4. Any steam escaping? general or localized release point? where? volume?

5. Any H_2S gas odor?

6. Is noise level to high to hear spoken words on site?

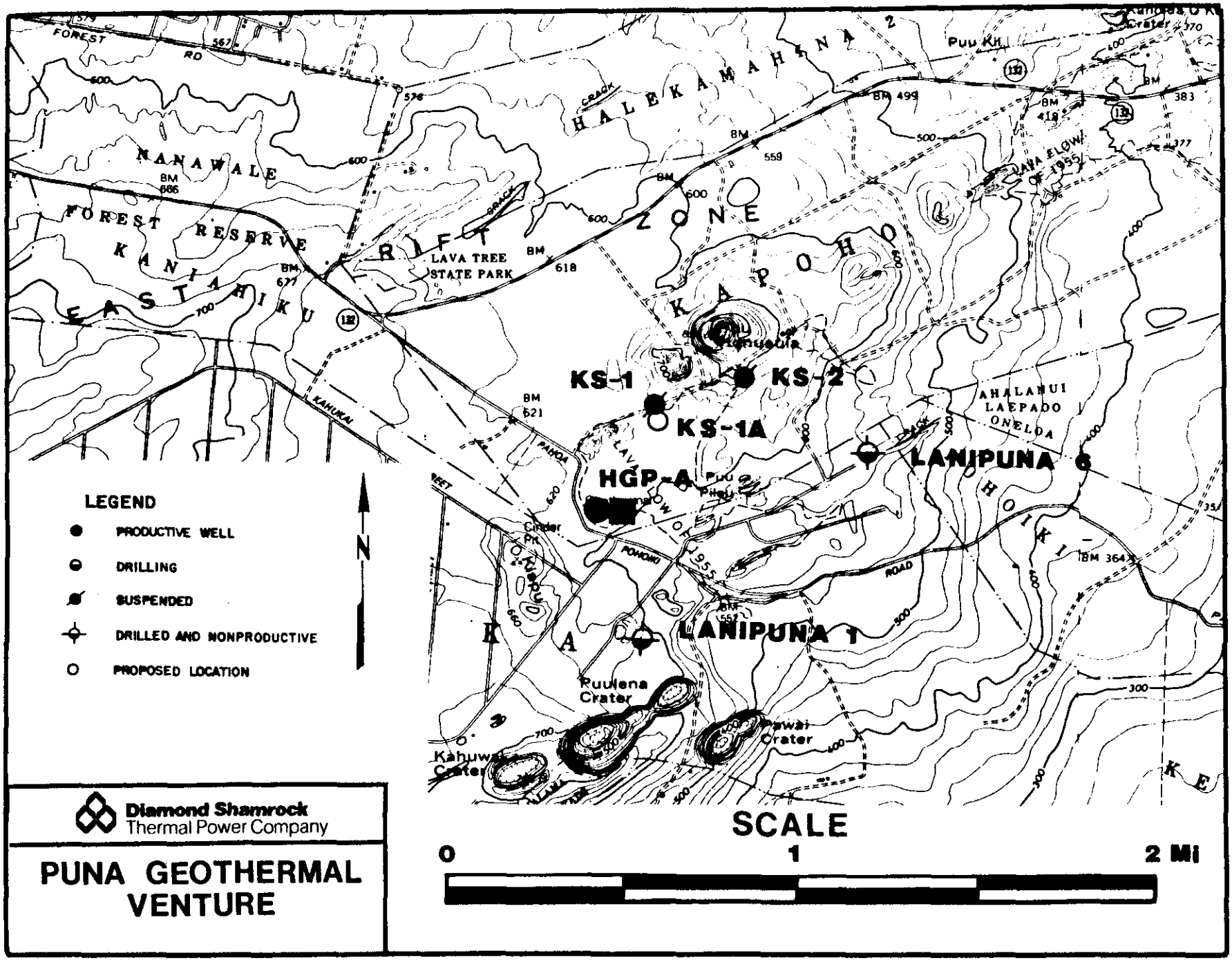
7. Any associated volcanic or seismic activity? lava flow?

8. Can you see? lights operational?

9. Rig or other equipment on site? damaged?

Map with labels.

7/16/86
Pink


LEGEND
PRODUCTIVE WELL
DRILLING
SUSPENDED
DRILLED AND NONPRODUCTIVE
PROPOSED LOCATION
N
KS-1
KS-2
KS-1A
HGP-A
LANIPUNA 6
LANIPUNA 1
LAVA TREE STATE PARK
NANAWALE FOREST RESERVE
KAPOHO
HALEKAMAHINA 2
RIFT ZONE
EAST HIKU
AHALANUI
LAEPADO
ONELDA
Ruuiena Crater
Kahuwai Crater
Puu Kii
SCALE
0
1
2 Mi
Diamond Shamrock
Thermal Power Company
PUNA GEOTHERMAL VENTURE

ALTERNATE EMERGENCY PLANS

PLAN A: If any emergency situation threatens public health or safety.

1. Civil Defense will establish a command post for the use of all public safety officials and for liaison with Thermal Power management and technical personnel.

2. Personnel on site will provide assessment of the problem and request response action from Civil Defense.

3. Civil Defense will coordinate release of information to the public concerning any public hazard (i.e., outside the private site).

4. Thermal Power Project Manager will be available on a 24-hour basis to provide liaison with Civil Defense and provide updates on conditions relevant to the hazard to the public.

5. Thermal Power Project Manager will determine and coordinate the assistance actions that can best be provided by Amfac and Dillingham.

6. TPC-San Francisco will coordinate with C. Nakamura in the Honolulu office on exact schedules and logistics for all persons involved in the response action. All San Francisco response team members will advise R. T. Pittenger of changes in location and specific travel plans.

7. If Project Manager is not available, R. T. Pittenger (TPC-Operations-San Francisco) will manage all activities in addition to directing the immediate response action at the well site until an appropriate TPC manager arrives on the scene.

PLAN B: If the emergency does <u>not</u> threaten public health or safety.

1. Thermal Power Project Manager will proceed to site ASAP after alerting key TPC staff persons. After initial evaluation, he will notify the Management Committee representatives, and appropriate State and County agencies of the problem and anticipated duration. The Project Manager will coordinate public and media contacts.

2. Steps five through seven of the Plan A procedures will be followed.

3. Upon Thermal Power's judgement, or if factors indicate an emergency event of more than 36-hour duration, an emergency control center appropriate to the best management of the circumstances will be established at a location and telephone number announced by radio, television and the Hilo telephone answering service.

7/16/86
YELLOW

EMERGENCY CONTACT LIST

COUNTY	BUS./RES. PHONE NUMBERS	
Civil Defense	(808) 935-0031	
	(808) 935-3311	(After-hours/holidays)
Police Dept.	(808) 935-3311	(Emergency)
	(808) 966-9388	(Keaau Police Station)
	(808) 961-2211	(Hilo Police Station)
Fire Dept.	(808) 961-6022	Ambul./Paramed./Rescue

STATE

Planning Dept.	(808) 961-8288
DLNR, Manabu Tagomori	(808) 548-7533/988-6541
DOH	(808) 548-6410/961-7371/247-2191

KEY TPC STAFF

Hawaii	
Ralph A. Patterson	(808) 524-8940/262-5651
Colleen R. Nakamura	(808) 524-8940/262-7154
California	
William L. D'Olier	(707) 576-7040/585-7677
Richard T. Pittenger	(415) 765-0302/939-3124
Misc. Numbers	
R. (Buddy) Bowden	Hilo Mobile #576/(505)327-6419
Guard Office (Hilo)	(808) 935-1910

CONTRACTORS

WRI (Water Resources)	(808) 839-7720
Willocks Construction	(808) 959-8082
Albert A. Nakaji	(808) 935-6073/964-1275
Robert A. Kochy	(808) 965-7646/Hilo mobile 985

OTHER

Weather Rpt. Record.	(808) 935-8555/961-5582
Volcano Rpt. Record.	(808) 967-7977
HGP-A Plant	(808) 965-7779
David Hess (Leilani Com. Assn.)	(808) 935-3716/965-9745

7/30/86
YELLOW

EMERGENCY FIRE AND MEDICAL EVALUATION PLAN

I. This plan outlines procedures to be followed and delineates responsibilities in the event of fire, personal injury or illness requiring immediate medical attention. The information contained herein applies to all Thermal Power Company employees as well as all contractor employees, although contractors are responsible for maintaining adequate first aid material and trained personnel.

At present, development, and therefore application of this plan, is limited to Honuaula drill site at Pohoiki, Puna, County of Hawaii and the immediate area around the site. It does not apply to the HGP-A site except as an emergency incident there might affect the Honuaula site.

Fire calls,and ambulances/paramedic/rescue calls should all be made to the Fire Department emergency number, 961-6022. Fire fighting equipment is stationed at Keaau, with an additional fire truck at Pahoa and a pumper truck and volunteer fire squad at Leilani Estates. MedEvac units are stationed at Keaau and Hilo. Helicopter service is available but used primarily for transport and not immediate medical treatment.

The nearest hospital is in Hilo, reached by private vehicle, ambulance or helicopter. Coordination is through the Fire Department.

Emergency situations, such as the 1982 leak incident at KS-1, are coordinated through the Civil Defense Agency.

II. **PROCEDURE AT SCENE OF INCIDENT:**

A. **In the Event of Fire**

1. Contact the Fire Department (see Emergency Contact List-Yellow Page #8).

   a. Identify yourself. Give phone number you are calling from.
   b. State location and severity of fire. Give pertinent access information. (Are the gates open?)
   c. Take steps to prevent spread of the fire or damage to equipment, as reasonable, by moving equipment, etc.
   d. Render first aid as feasible.
   e. Evacuate <u>all</u> personnel from the vicinity of the fire.

B. **In a Medical Emergency**

1. Take reasonable steps to prevent further injury.

2. Render first aid.

3. Send someone to notify Civil Defense, the Puna Police or the County Fire Department/ambulance. (All these numbers are on the Emergency Contact List - Yellow Page #8).

4. Evacuate unnecessary personnel.

5. Contact the Thermal Power/PGV management list (yellow page #8).

ON-SITE FACILITIES

Facilities at the Honuaula Drill Site consist of well pad lights, County water supply through a 2-1/2" plastic line, with valves at #1 drill pad and at the #2 drill pad, an intrusion alarm, and portable toilet.

Lighting

The electrical lighting and alarm system is diagrammed on the following page.

Shelter and Storage

A house trailer, a small wooden office and a metal storage shed are located on the #1 drill pad. Electrical service to the trailer is available.

Keys

A set of keys to the various gates, the electrical panel at the front gate, the trailer and storage shed, is in the guard's possession. A complete set of keys is also at Al Nakaji's office at 614 Kilauea Avenue, Suite 1, Hilo, (808) 935-6073.

Miscellaneous

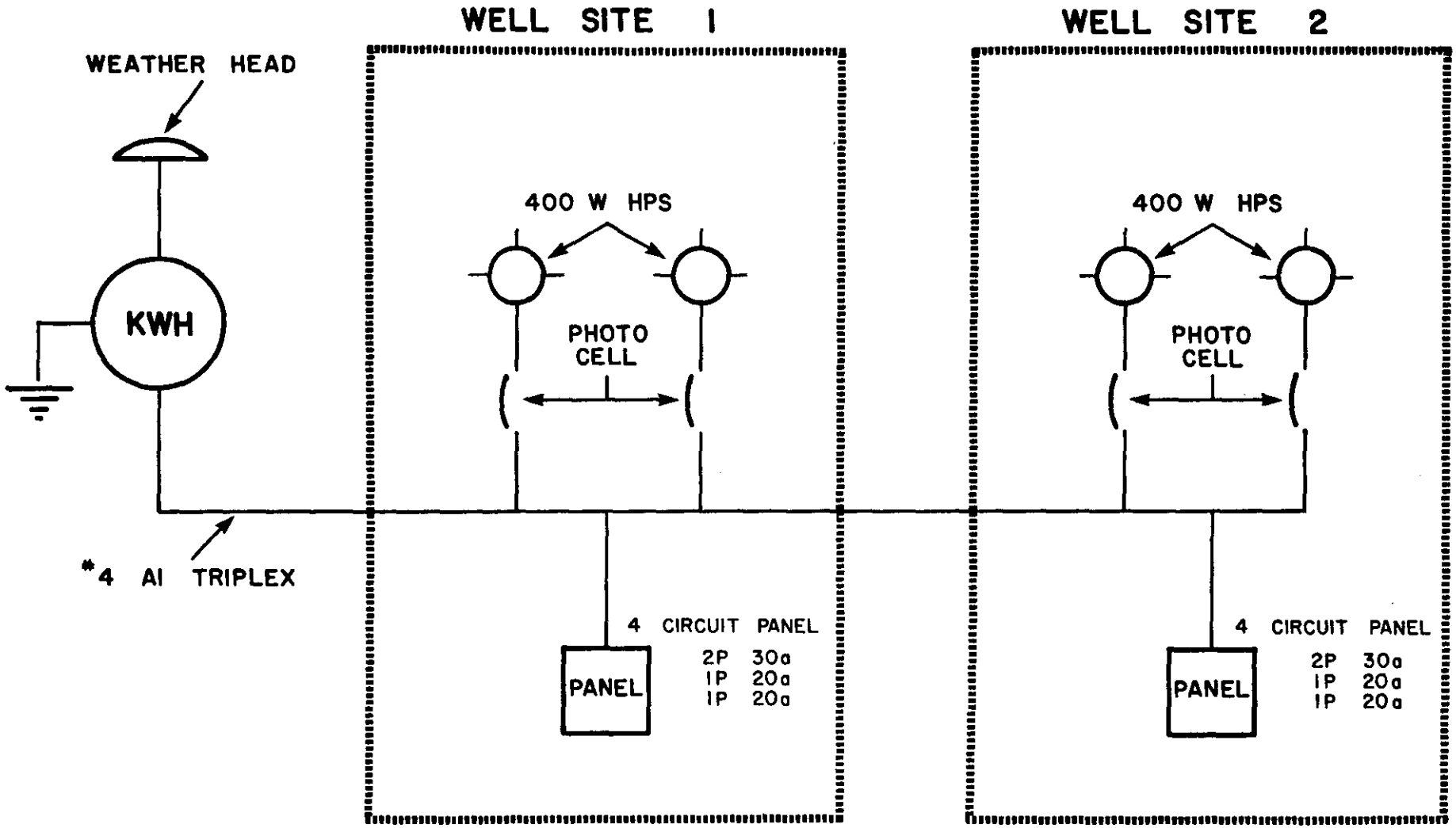
Configuration drawings of the #1 and #2 wellheads are included on the following pages. At the present time, both KS-1 and KS-2 wells are suspended with deep (at 1750-2250 feet in KS-1 and at 2994-3225 feet in KS-2) cement plugs to isolate the upper well bores from the geothermal resource zones.

There is a telephone and some limited emergency equipment at the HGP-A power plant near the Honuaula drill site. There is either a guard or an operator at the power plant at all times.

A policy statement on notification requirements of the Toxic Substances Control Act is included on the following pages.

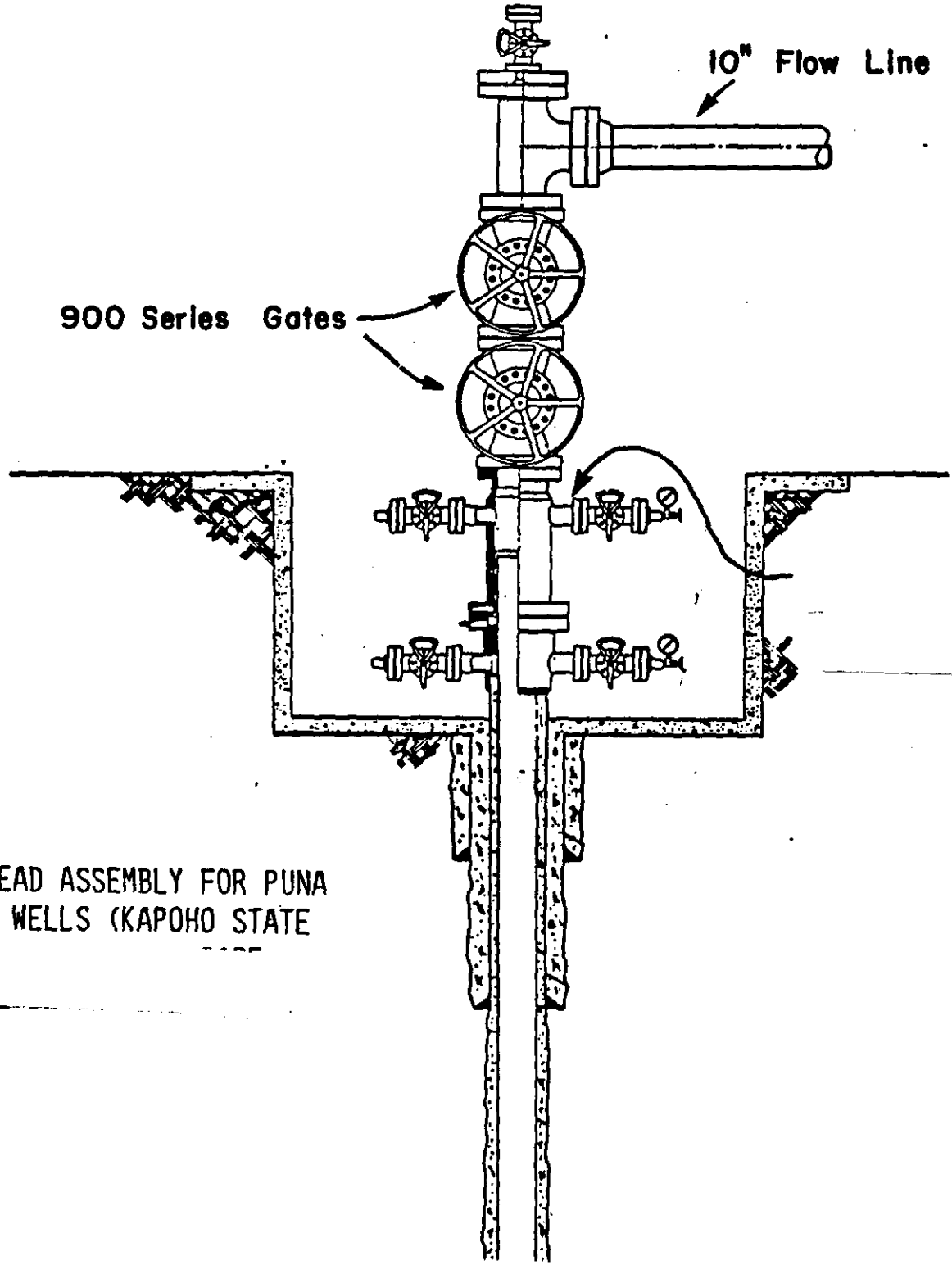
The KS-1A wellhead configuration is similar to KS-1 and 2. The KS-1A well is shut-in on the master wellhead valve.

7/16/86



Kapoho State Well Site Lighting System

Diamond Shamrock
Thermal Power Company



SCHEMATIC OF WELLHEAD ASSEMBLY FOR PUNA GEOTHERMAL VENTURE WELLS (KAPOHO STATE 1 AND 2).

POLICY ON THE NOTIFICATION OF SUBSTANTIAL RISK

UNDER SECTION 8(e) OF THE TOXIC SUBSTANCES CONTROL ACT

The Toxic Substances Control Act (TSCA) requires under Section 8(e) that any person who obtains information that reasonably supports a conclusion that any chemical substance or mixture presents a substantial risk to health or the environment should report this to the EPA.

To comply with these requirements, the Corporate Policy of Diamond Shamrock is as follows:

1. Employees who acquire information which may suggest a substantial risk to health or the environment should inform the Corporate Medical Director, Health and Environmental Affairs Department (H.E.A.D.). This action should be taken as soon as such information is received, without awaiting a final report, conclusions, or results of subsequent or confirmatory studies.

2. The Corporate Medical Director will inform and consult with appropriate Environmental Affairs, Legal and management personnel.

3. The Corporate Medical Director will coordinate all reports to the EPA. Any reporting to the EPA will be done in consultation with appropriate operating company management.

4. Copies of reports of all toxicological studies and all investigatory studies made relating to health or environmental concerns shall be sent to the Corporate Medical Director for evaluation in regard to TSCA §8(e) reporting and for filing with other health and environmental information.

5. The person bringing the information to the attention of the Corporate Medical Director will be informed of the corporate decision on filing a notice of substantial risk.

6. Failure to comply with the provisions of this policy could lead to Federal penalties under TSCA.

August 28, 1984

Doc: LAWREG/8e

MEDIA LIST

BIG ISLAND:

Mr. Hugh Clark
(808) 936-3916
Honolulu Advertiser
P. O. Box 1956
Hilo, Hawaii 96720

Mr. Rod Thompson
(808) 935-1012
Honolulu Star Bulletin
P. O. Box 81
Hilo, Hawaii 96720

Mr. Gene Tao
(808) 935-6621
Hawaii Tribune Herald
355 Kinoole Street
Hilo, Hawaii 96720

Mr. Joe Ruble
(808) 935-5524
KKBG
913 Kanoelehua
Hilo, Hawaii 96720

News Director
(808) 935-5464
KPUA
1145 Kilauea Avenue
Hilo, Hawaii 96720

KGMB-CH 9
Neighbor Island Bureau
(808) 969-9999
Attention: Randy Obata
Box 10699
Hilo, Hawaii 96721

Mr. Russ Roberts
(808) 935-1952
KHLO Radio
1650 Kalanianaole
Hilo, Hawaii 96720

Mr. Bill Carnett
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KIPA
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Cox Newspapers
3217 Collins Street
Honolulu, Hawaii 96813

KHON-TV2
(808) 531-8585
1170 Auahi
Honolulu, Hawaii 96814

Newspaper Deadlines:

Advertiser: 8:00 p.m. for next day a.m.
Hon. Star Bulletin: 9:30 a.m. for late that day
Hawaii Tribune Herald: 10:00 a.m. for that day's paper

7/16/86

PUNA GEOTHERMAL VENTURE
EMERGENCY PLAN

DISTRIBUTION

Master Plan.....Honolulu

R. A. Patterson.....Honolulu

R. T. Pittenger.....San Francisco

W. L. D'Olier.....Santa Rosa

R. C. (Buddy) Bowden.....Farmington

M. A. Richard.....San Francisco

G. E. St. John.....Honolulu

Civil Defense (2).....Hilo

Planning Department (2).....Hilo

Police Department.....Keaau

Thermal Power.....Honolulu

A. A. Nakaji.....Hilo

R. A. Kochy.....Hilo

HGP-A.....Hilo

DLNR (M. Tagomori).....Honolulu

DOH.....Honolulu

Willocks Construction.....Hilo

WRI.....Hilo

Fire Department.....Hilo

Dillingham Geothermal, Inc.....San Francisco

7/16/86

FACILITY EMERGENCY RESPONSE PLAN

Puna Geothermal Venture 25 MW Power Project

Geothermal Resource Permit: GRP 87-2

Kapoho, Hawaii
TMK: 1-4-01: por. 2,3, por. 19 & 58

Puna Geothermal Venture
P.O. Box 30
Pahoa, Hawaii 96778

RECORD OF REVISIONS
PUNA GEOTHERMAL VENTURE
EMERGENCY RESPONSE PLAN

VERSION NUMBER	VERSION DATE	SIGNATURE
1	JAN, 1990	
2	APR, 1990	
3	JULY, 1990	
4	AUGUST, 1990	
5	AUGUST, 1990	
6	DECEMBER, 1991	

RECORD OF REVISIONS

CHANGE NUMBER	DATE OF CHANGE	DATE ENTERED	CHANGE MADE BY (SIGNATURE)

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1 INTRODUCTION

Puna Geothermal Venture (PGV) will be developing a geothermal powered electric generating project within a designated area of about 500 acres located on State Highway 132 and Pahoa-Pohoiki Roads (Figure 1-1 and Figure 1-2). A detailed description of the project facilities and operations is presented in Appendix A.

1.1 Objective

This Facility Emergency Response Plan (ERP) has been developed to comply with Condition #26 of Geothermal Resource Permit GRP 87-2, approved by the County of Hawaii Planning Commission on October 3, 1989, and in conformance with discussions with the County of Hawaii Civil Defense Agency (CDA), Hawaii Department of Health (HDOH), and the staff of the Hawaii State Emergency Response Commission (ERC). This ERP is specifically required to provide a plan of action to deal with facility emergency situations which may threaten the health, safety, and welfare of the employees and other persons in the vicinity of the proposed project site. This plan will be the basis of all actions by PGV's personnel and management staff in responding to these situations, and will be updated as appropriate when necessary.

Any change to the plan is the responsibility of:

General Manager, Puna Geothermal Venture
P.O. Box 30
Pahoa, Hawaii 96778

1.2 Scope

The required Scope of the ERP, as in Condition #26 of the GRP, items a through k, requires that the following elements be included as a minimum:

a. A description of the project facilities and operations, with site plans identifying areas of potential hazards, such as high pressure piping and the presence, storage and transportation of flammable or hazardous materials, such as lubrication or fuel oil, pentane, hydrogen sulfide, and sodium hydroxide;

b. A description of emergency services available off-site to respond to any emergency;

c. A description of the current on-site chain-of-command and responsibilities of project personnel in the event of an emergency; and,

d. A description of potential project emergency situations, such as loss of well control, chemical spills, hydrogen sulfide exposure, pipeline rupture, fires, contaminated solids, etc. identifying;

   (i) technical data on the nature of the hazard (for example, the concentrations of hydrogen sulfide in the various areas and the hazard associated with these concentrations, the corrosive characteristics of the abatement chemicals), or any data regarding the possible aerial extent of each potential emergency situation;

   (ii) the warning systems (such as hydrogen sulfide detectors) used to alert personnel of the hazard;

   (iii) the location and use of equipment used to control the hazard (such as fire protection equipment or isolation valves) or repair hazardous equipment (such as welding equipment or casing sleeves), and safety equipment for personnel (such as respiratory packs), including identification of the personnel trained in the use of that equipment; and

   (iv) provisions for the monitoring, detection, and inspection of wells and plant facilities for the prevention of emergency situations.

e. Provisions to address natural hazards (such as lava flows, earthquakes, and storms) that identify warning systems, control options, steps for securing and shutting down the facility, personnel evacuation, and notification to appropriate agencies;

f. The location and capabilities of available medical services and facilities and plans for treating and transporting injured persons;

g. Evacuation plans, including meeting points, personnel rosters, and escape routes;

h. Training requirements for personnel, including procedures for emergency shutdown, handling of emergency equipment, spill prevention, first aid and rescue, fire fighting procedures, and evacuation training;

i. Provisions for periodic emergency preparedness drills for personnel;

j. Detailed procedures to be used to facilitate coordination with appropriate federal, state, and county officials during and after any emergency situation; and,

k. Procedures to be used to identify and inform all residents within applicable distances of the project of the possible emergency situations, warnings, and responses in advance of commencement of project operation and the methods by which all individuals affected by a given emergency will be notified and evacuated, as necessary.

Table 1-1 identifies where the components of each of these GRP requirements are located in this document.

Table 1-1. Index of GRP Condition #26 Requirements in the Emergency Response Plan

a.	A description of the project facilities and operations, with site plans identifying areas of potential hazards, such as high pressure piping and the presence, storage and transportation of flammable or hazardous materials, such as lubrication or fuel oil, isopentane, hydrogen sulfide, and sodium hydroxide;	Section 4, Appendix A
b.	A description of emergency services available off-site to respond to any emergency;	Section 4
c.	A description of the current on-site chain-of-command and responsibilities of project personnel in the event of an emergency; and	Section 3
d.	A description of potential project emergency situations, such as loss of well control, chemical spills, hydrogen sulfide exposure, pipeline rupture, fires, contaminated solids, etc. identifying;	Section 8
	(i) technical data on the nature of the hazard (for example, the concentrations of hydrogen sulfide in the various areas and the hazard associated with these concentrations, the corrosive characteristics of the abatement chemicals), or any data regarding the possible aerials extent of each potential emergency situation;	Section 8, Appendix C, Appendix G, Appendix H, Appendix I
	(ii) the warning systems (such as hydrogen sulfide detectors) used to alert personnel of the hazard;	Section 4, Section 8
	(iii) the location and use of equipment used to control the hazard (such as fire protection equipment or isolation valves) or repair hazardous equipment (such as welding equipment or casing sleeves), and safety equipment for personnel (such as respiratory packs), including identification of the personnel trained in the use of that equipment; and	Section 4, Section 8
	(iv) provisions for the monitoring, detection, and inspection of wells and plant facilities for the prevention of emergency situations.	Section 8, Appendix A
e.	Provisions to address natural hazards (such as lava flows, earthquakes, and storms) that identify warning systems, control options, steps for securing and shutting down the facility, personnel evacuation, and notification to appropriate agencies;	Section 5, Section 8
f.	The location and capabilities of available medical services and facilities and plans for treating and transporting injured persons;	Section 4
g.	Evacuation plans, including meeting points, personnel rosters, and escape routes;	Section 5
h.	Training requirements for personnel, including procedures for emergency shutdown, handling of emergency equipment, spill prevention, first aid and rescue, fire fighting procedures, and evacuation training;	Section 6
i.	Provisions for periodic emergency preparedness drills for personnel;	Section 6, Section 7
j.	Detailed procedures to be used to facilitate coordination with appropriate federal, state, and county officials during and after any emergency situation; and,	Section 3, Appendix B, Appendix E
k.	Procedures to be used to identify and inform all residents within applicable distances of the project of the possible emergency situations, warnings, and responses in advance of commencement of project operation and the methods by which all individuals affected by a given emergency will be notified and evacuated, as necessary.	Section 3

Figure 1-1. Site Location Map

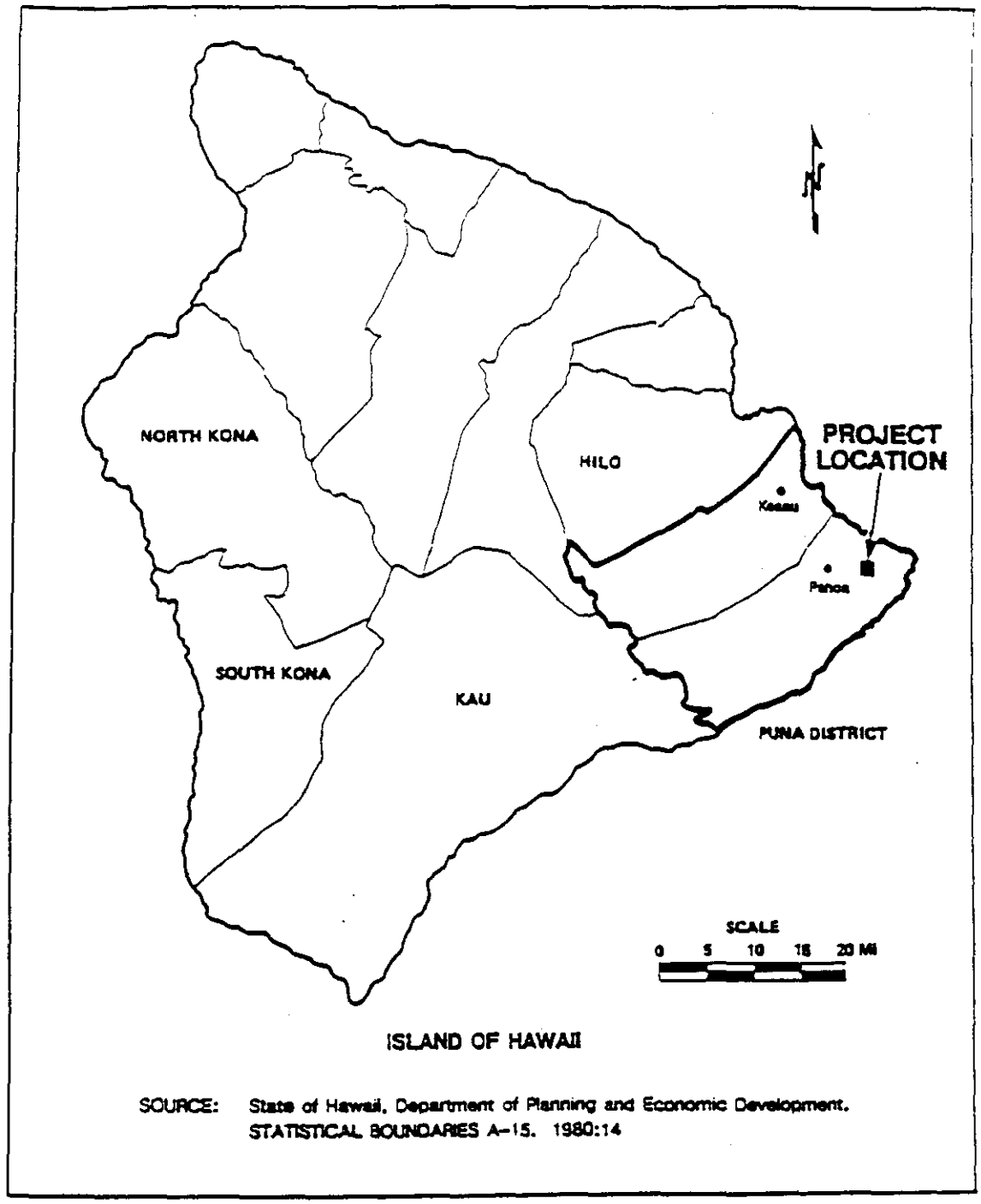
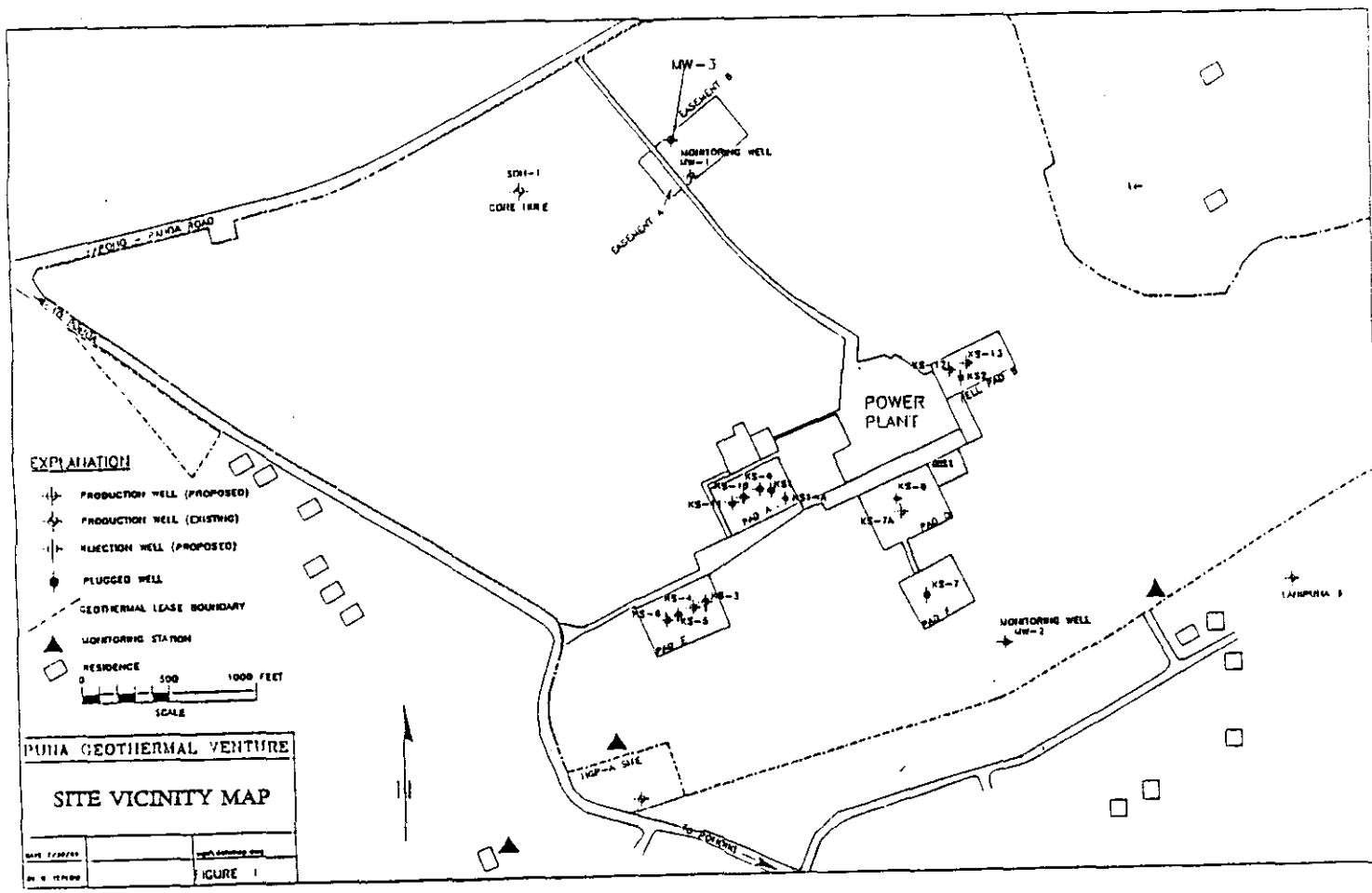


Figure 1-2. Site Vicinity Map



2 REGULATORY AUTHORITY AND DEFINITIONS

2.1 Regulatory Authority

As discussed above in Chapter 1, this ERP has been developed specifically to satisfy Condition No. 26 of GRP 87-2, which requires a plan of action to deal with emergency situations which may threaten the health, safety, or welfare of the employees and other persons in the vicinity of the proposed project site. GRP 87-2 presents fifty other conditions of approval which, among other things, set limits on the amount of several pollutants that PGV may emit into the environment, and also set limits on the ambient (environmental) concentrations of these pollutants which result from PGV's operations. So that the PGV Project will not become a nuisance to the community, these permitted emission limits and ambient concentrations are intentionally set at very low levels.

PGV has also been issued two permits by the Hawaii State Department of Health (HDOH), which similarly limit the emissions of several pollutants, principally hydrogen sulfide, and limit the concentrations that these pollutants can reach in the ambient environment as a result of PGV's operations. Authority to Construct ATC No. A-833-795 was issued by the HDOH to regulate the construction and operation of the PGV Project wellfield, and ATC No. A-834-796 was issued by the HDOH to regulate the construction and operation of the PGV Project power plant.

Exceeding either the emission limits or ambient concentrations set in these permits, either during otherwise permitted operations or during upset conditions, would be considered a violation of the permits and would subject the permit holder (PGV) to the penalties described in the permits and applicable laws and regulations. PGV is generally also

required to immediately respond to exceedances of the permitted emission limits or ambient concentrations by reducing or eliminating the source of the exceedance, so that the project permitted operations are reduced to within permitted limits.

Some upset conditions, although they do not result in the emission or ambient concentration of any pollutant above the permitted level and do not pose any threat to the health, safety, or welfare of the persons in the vicinity of the community, may nonetheless result in the need for one or more of the County normal emergency response organizations (police, fire department, etc.) to respond to the site. The County of Hawaii Plan for Emergency Preparedness, Vol. III, Disaster Preparedness and Response, recognizes these as "everyday" emergency situations, the type of emergency situations which frequently arise in a community and which are handled routinely by normal emergency services. However, should the exceedance of the permitted limits or concentrations during an upset or accident be so great as to endanger, or potentially endanger, the public health, safety, or welfare, an emergency response by the Hawaii County Civil Defense Agency (CDA) and/or other County emergency response organizations would likely occur.

2.2 Definitions

Normal Plant Operations	As defined in the Authority to Construct Permit's (ATC's), a condition when both the power plant and geothermal wellfield are operating normally, that is, when the power plant is operating without any upsets, equipment failure, malfunction or which is otherwise operating normally and when no well drilling, flow testing, or venting activities are occurring and where the completed wells are not experiencing any equipment failure or malfunction and are either shut-in, being used as an injection well, or connected to a sound geothermal resource distribution system.
Routine Operations	Those operations over and above normal operations, including, but not limited to, periods of well drilling, well flow testing, well or pipe cleanout, but not including periods of well or power plant upset, failure or malfunction.
Upset Conditions	Those situations which are not normal or routine operations.
Permitted Operations	Those normal, routine, and upset operations and/or conditions which are permissible under permits granted by the Hawaii County Planning Commission (Geothermal Resource Permit GRP 87-1) and the Hawaii Department of Health (Authority to Construct Permits ATC No. A-834-796 and ATC No. A-833-795), whether by explicit statement or through producing impacts which do not exceed stated limits.

Permitted Upset Conditions	Those situations which are not normal or routine operations, but which are otherwise anticipated and approved by the appropriate regulatory agencies, such as steam release through the emergency steam release facility; or those circumstances, such as turbine trips, minor leaks, component malfunctions, etc., which are not expressly approved in any permits, but the impacts of which fall within permitted limits and do not have the potential to produce emergency situations which could threaten the health, safety, or welfare of the employees and other persons in the vicinity of the proposed project site.
Ambient Level	That concentration of a pollutant, such as hydrogen sulfide, or level of an environmental factor, such as noise, which is measured or predicted at a specified point or points in the air or environment.
Emission Level	That quantity of a pollutant or environmental factor which is, or could be, discharged into the environment.
Facility Emergency Situation	An upset condition which results in the need for immediate action by facility operation personnel to restore normal or routine operations.
"Everyday Emergency Situations"	As defined by the County of Hawaii Plan for Emergency Preparedness, Vol. III, Disaster Preparedness and Response, those emergency situations which are handled routinely by project personnel and/or normal emergency services such as police, fire, emergency medical service, public works, or utilities.
Hazard	Any situation that has the potential for causing damage to life, property, or the environment.

3 NOTIFICATION AND CHAIN-OF-COMMAND

3.1 Notification Lists

Table 3-1 provides phone contacts for County, State, and Federal government agencies, PGV staff, and the project 24-hour information line.

3.2 PGV Emergency Response Organization

Figure 3-1 illustrates the chain-of-command that is in effect to deal with site emergencies.

Table 3-2 summarizes the responsibilities of the site staff during an emergency situation relative to routine operations.

3.3 Notification to Public

GRP Condition #25 (k) requires PGV to outline:

1. "Procedures to be used to identify and inform all residents within applicable distances of the project of the possible emergency situations, warnings, and responses, in advance of commencement of the project, and,"

2. "The methods by which all individuals affected by a given emergency will be notified and evacuated, as necessary."

AGENCY	LOCATION	DAYTIME TELEPHONE	AFTER HOURS TELEPHONE	NATURAL HAZARDS						UPSETS AND ACCIDENTS			
				Volcanic Activity	Magma Intrusion	Earthquake	Hurricane	Lightning	Brush Fire	Geothermal Steam and Fluid	Fire Hazard	Noise Hazard	Spills and Leaks
1. COUNTY OF HAWAII													
CIVIL DEFENSE (LOCAL EMERGENCY PLANNING COMMITTEE)	HILO	935-0031	935-3311	Notify[1]	Notify[1]	Notify[1,2]	Notify[1]	Notify[1]	Notify[1]	Notify[1,3]	Notify	Notify[1,4]	Notify[1,5]
POLICE	HILO PAHOA KEAAU	935-3311 966-9388 966-9388	935-3311 966-9388 966-9388										
FIRE DEPARTMENT (AMBULANCE, RESCUE)	HILO	961-6022	961-6022	Notify[6]	Notify[6]	Notify[6]	Notify[6]	Notify[6,7]	Notify	Notify[6]	Notify	Notify[6]	Notify[6]
PLANNING DEPARTMENT	HILO	961-8288	N/A		Notify	Notify[2]	Notify[2]	Notify[2]		Notify[2]	Notify	Notify[4]	Notify[5]
2. STATE OF HAWAII													
DEPT. OF HEALTH, HAZARD EVALUATION AND EMERGENCY RESPONSE BRANCH (STATE EMERGENCY RESPONSE COMMISSION)	HONOLULU	1-743-2161	1-743-2161							Notify[3]			Notify[5]
DEPT. OF HEALTH, NOISE AND RADIATION BRANCH	HONOLULU	1-586-4700	N/A									Notify[4]	
DEPT. OF HEALTH, CLEAN AIR BRANCH	HONOLULU	1-586-4200	N/A			Notify[2]	Notify[2]	Notify[2]		Notify[3]			
24-HOUR NOTIFICATION LINE	HONOLULU	1-586-4350	1-586-4350										
DEPT. OF HEALTH, DISTRICT HEALTH OFFICE	HILO	933-4210	N/A							Notify[3]			
DEPT. OF LAND AND NATURAL RESOURCES	HONOLULU ALTERNATE 1 ALTERNATE 2 HILO	1-587-0401 1-587-0246 1-587-0225 933-4279	1-988-6541 1-545,5414 1-737-7778 961-6586	Notify[8]	Notify[8]	Notify[9]	Notify[8]	Notify[8]	Notify[8]	Notify[9]	Notify[8]	Notify[8]	Notify[8]
3. UNITED STATES GOVERNMENT													
NATIONAL RESPONSE CENTER	WASHINGTON, D.C.	1-800-424-8802	1-800-424-8802							Notify[5]			Notify[5]
4. PUNA GEOTHERMAL VENTURE													
24-HOUR INFORMATION LINE	HILO/PUNA	965-8843	965-8843	Implement Chain of Command	Implement Chain of Command	Implement Chain of Command	Implement Chain of Command	Implement Chain of Command	Implement Chain of Command	Implement Chain of Command	Implement Chain of Command	Implement Chain of Command	Implement Chain of Command
STAGING AREA	PUNA	961-2786	N/A										
WELLPAD	PUNA	965-6195	965-6195	Implement Evacuation Plan, as appropriate	Implement Evacuation Plan, as appropriate	Implement Evacuation Plan, as appropriate	Implement Evacuation Plan, as appropriate	Implement Evacuation Plan, as appropriate	Implement Evacuation Plan, as appropriate	Implement Evacuation Plan, as appropriate	Implement Evacuation Plan, as appropriate	Implement Evacuation Plan, as appropriate	Implement Evacuation Plan, as appropriate
POWER PLANT	PUNA	965-9715	965-9715										
OPERATIONS OFFICE	PUNA	961-2786	961-2786										
DEVELOPMENT OFFICE	HILO	961-2184	961-2184										
WELLFIELD MANAGER	PUNA	961-2786	961-2786										
GENERAL MANAGER	PUNA	961-2786	961-2786										
DRILLING SUPERINTENDENT	PUNA	965-6195	965-6195										
ENVIRONMENTAL COORDINATOR	PUNA	961-2786	961-2786										
VICE PRESIDENT	HILO	961-2184	961-2184										

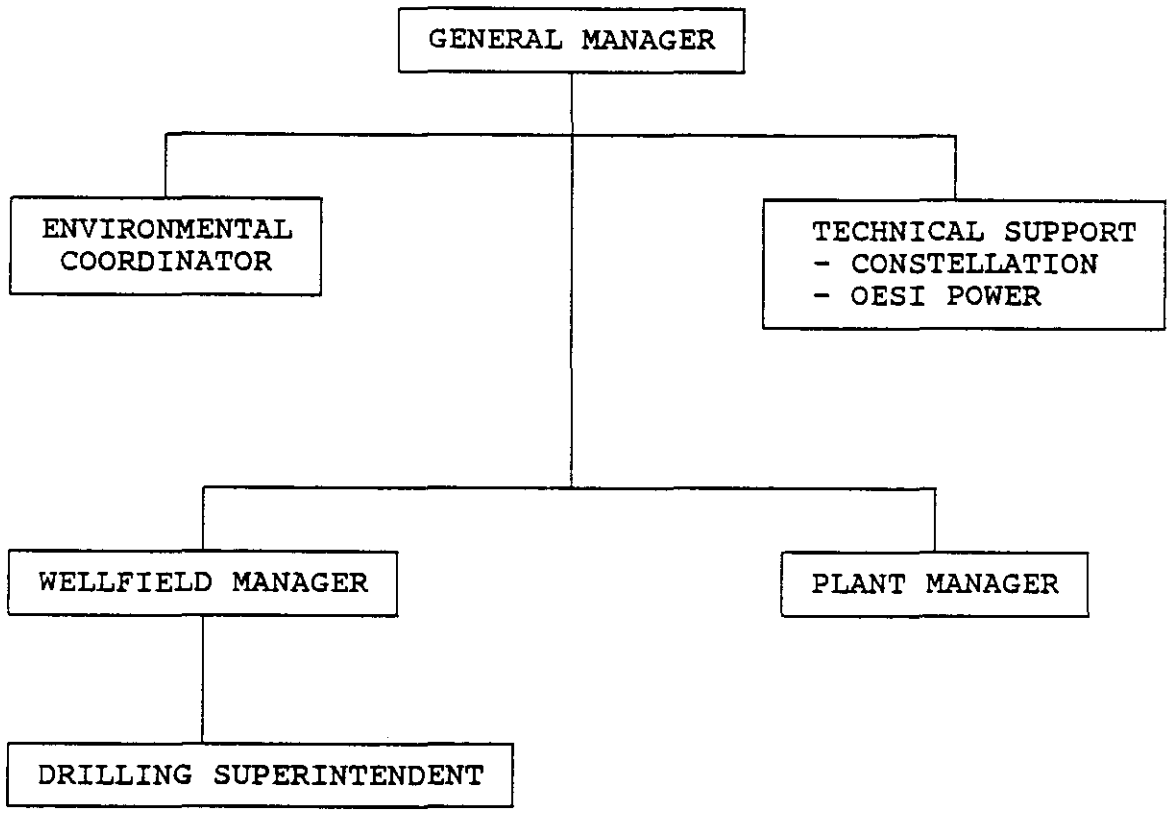
1. Notify immediately if natural hazard causes a facility emergency situation which could threaten public health and safety.
2. Notify if the power plant trips and steam is diverted to the emergency steam release facility.
3. Notify if any of PGV operations result in an uncontrolled steam release which produces, or has the potential to produce, an exceedance of the appropriate ambient hydrogen sulfide concentrations established by the Department of Health Clean Air Branch or Hazard Emergency Evaluation Branch.
4. Notify if any accident or upset of PGV's operations leads to an exceedance of the appropriate ambient noise level.
5. Notify if any materials are released in excess of reportable quantities.
6. Notify if any personnel require emergency medical attention.
7. Notify if fire is created.
8. Notify as courtesy as lessor of any reportable incidents.
9. Notify if any well or wellpad facilities are, or may be, damaged.

Table 3-1. Emergency Notification Contact List

Table 3-2. Puna Geothermal Operational Staff Responsibilities

POSITION	ROUTINE OPERATIONS	EMERGENCY SITUATION
General Manager	• Oversee Emergency Response Plan • Oversee Monitoring Program	• Liaison with Governmental agencies • Implement ERP with Civil Defense • Oversee project personnel and response procedure • Direct communication, equipment, and vehicles onsite
Wellfield Manager	• Maintain adequacy of safety program	• Assess danger • Formulate wellfield response actions to control/eliminate situation • Advise Project Manager
Drilling Superintendent	• Assist Wellfield Manager • Know status of all wells and wellfield activities	• Supervise drilling response procedures • Coordinate drilling crew response • Inspect wells for damage
Plant Manager	• Plan/implement traffic control measures • Plan/implement fire control measures • Maintain adequacy of contractor safety programs • Direct all site emergency drills • Know status of onsite facilities • Check areas for hazards and post proper signs • Maintain project safety equipment and first aid supplies • Maintain emergency records and reports • Arrange PGV safety equipment and ERP training	• Assess danger • Establish Command Center • Perform head count of onsite personnel and visitors • Formulate power plant response actions • Advise Project Manager • Perform response actions • Coordinate construction crew response • Direct contractor's support • Shut off all unnecessary electricity and flammable fluid pipes • Arrange transport of personnel • Arrange removal of equipment • Provide safety equipment and first aid supplies as required
Environmental Coordinator	• Oversee permitting activities • Maintain regulatory compliance • Update ERP as directed	• Initiate field monitoring activities • Provide staff support as required

Figure 3-1. Puna Geothermal Venture Chain-of-Command



PGV considers that within the context of this condition that:

1. The applicable distances from the project to be the 3,500 feet from the project 500 acres leasehold boundary, as specified in the GRP,

2. Commencement of project operation is considered as the beginning of drilling of the first geothermal well on the site,

3. The CDA will have the responsibility for, and be in charge of, any notification and evacuation of the public arising from emergency conditions existing at the site,

4. This ERP identifies the possible emergency situations, warnings and responses and the methods by which all individuals affected by a given emergency will be notified and evacuated, as necessary, and,

5. Informing all residents within applicable distances of the project of the presence of the ERP constitutes compliance with Condition #26 (k), and,

6. The public will be informed of the presence of the ERP by (1) announcement in the local newspapers, and (2) receipt

of written letters to all residents within the applicable distance as noted above.

7. These notification events will occur within one week after the CDA has provided approval of this ERP in advance of commencement of project operation.

3.3.1 Public Notification During Nuisance/Disturbance Situations

PGV, in conformance with conditions of the GRP and the ATC, has committed to the establishment of a 24-hour information line for use by the public. PGV recognizes that from time to time residents nearby may experience disturbances or discomfort from the project activities. In some situations, these conditions could be perceived by the public as potentially related to an emergency condition. In these instances, individuals can call the **PGV 24-HOUR INFORMATION LINE.** The caller will be asked to provide the following information:

1) The general description of the situation, location and any other relevant information.
2) The caller's name and contact phone number and/or address.

All calls and their respective conversations will be logged. The General Manager or PGV person-in-charge at the site shall be immediately notified of an inquiry or complaint that could be related to a facility emergency situation. Corrective actions, if any, shall be taken to appropriately rectify any condition which is in violation of the GRP or ATC conditions or could potentially magnify into an emergency situation.

Table 3-3 identifies the response PGV will take to deal with requests for information and complaints when they come from the public either in writing or over the 24-hour information line.

PGV will not contact CDA when a complaint is received unless there is a potential emergency condition at the site.

Table 3-3. Response to Public Requests for Information or Complaints

3-3.1 RECEIPT OF CALL:

Calls will be accepted 24-hours per day, 365 days per year.

Information will be requested from the caller (name, address, telephone number) for all calls. If this basic information is not provided by the caller, PGV will advise the caller that the call will not be responded to and will be dismissed as if it were 'nuisance'.

Details of the request for information or complaint will be taken down in writing, repeated back to the caller for confirmation/verification, and the time and date of the call noted during the conversation.

3-3.2 CALL LOGGING:

Calls will be logged into the project response line log book by PGV and will be given a number for future reference.

3-3.3 CALL 'TYPE' IDENTIFICATION:

Each call will be identified according to its purpose:

1. Information,
2. Project Status, or
3. Complaint

Calls related to (1) Information and (2) Project Status will be handled in the normal manner PGV has already established for these types of requests.

3-3.4 COMPLAINT RESPONSE PROCEDURE:

PGV will investigate complaints related to noise or air conditions according to the documented site activities ongoing at the time of the complaint, and the nature of the complaint. The complaint response path will generally be according to the following steps:

1. Acknowledge receipt of complaint.
2. Go to location and provide on-site monitoring noise level monitoring or SLM if requested.
3. Notify county in writing of receipt of complaint.
4. Determine what activities were ongoing at the time of the complaint.
5. Collect, in conjunction with the environmental monitoring contractor, the pertinent site data (including air quality and meteorological and noise conditions).
6. Relate the monitoring data to the site activity and the complaint.
7. Advise the caller of what was found.
8. Take appropriate steps to remediate situation when needed.

3-3.5 COMPLAINT RESPONSE TIMING:

PGV will provide a verbal response to the caller within 24 hours of receipt of call, or sooner if requested and deemed appropriate by PGV.

A copy of the telephone conversation record documenting the nature and content of the response call will be entered into the file for reference.

A written follow-up response to caller will be made within 1 week after receipt of complaint.

A copy of the written response will be forwarded to the County Planning Department for their information.

3-3.6 ADVICE TO COUNTY PLANNING DEPARTMENT OF COMPLAINT RECEIVED:

County Planning Department will be advised verbally and in writing as soon as convenient, of a complaint.

The 'Advice of complaint notice' shall be no later than 24 hours after the incident, or the next working day, if the complaint occurs over the weekend or a holiday.

The notice shall consist of providing a copy of the PGV file copy containing the complaint information.

The advice notice will also indicate what initial response was taken by PGV.

4 RESPONSE FACILITIES

4.1 Emergency Facilities Available Off-Site

Figure 4-1 shows the location of facilities available in Pahoa, Keaau, and Hilo that are capable of responding during on-site or off-site emergencies. Table 4-1 lists the emergency response and medical facilities that could reasonably be expected to provide support if a facility emergency situation arose.

4.2 On-Site Safety Facilities

Figures 4-2 and 4-3 show the power plant and wellpad potential hazard areas, respectively. Locations of on-site safety equipment relative to the hazard areas are clearly marked. All response and safety facilities have been located so as to be close to the potential hazard area yet isolated from the immediate impact of the hazard during a facility emergency situation (such as placing air packs in elevated areas where H_2S would not collect). Table 4-2 lists the types and numbers of safety and first aid equipment to be located in the wellpad, power plant and staging areas of the project. Table 4-3 lists the on-site hydrogen sulfide detection equipment. More detailed descriptions of the on-site safety equipment are presented in Appendix A.

4.3 On-Site Meeting Points

On-site meeting points are described in Section 5.1 and shown in Figure 5.1. The primary on-site meeting place (MP1) will be the control building. This site is located upwind from wellfield and power plant operations under prevailing wind conditions. The

control building will contain primary communications equipment (telephones, radio base station, etc.) and other emergency equipment along with the plant process controls. These factors make it the logical meeting area. If the control building cannot be used for any reason, site personnel will proceed along the emergency route (ER1) through the topographical divide to the staging area (MP2). If this area is inaccessible or unsafe, site personnel will proceed by way of alternate emergency route (ER2) to the clearing at the intersection of Kapoho and Pohoiki Roads (MP3).

Figure 4-1. Off-Site Emergency Facilities

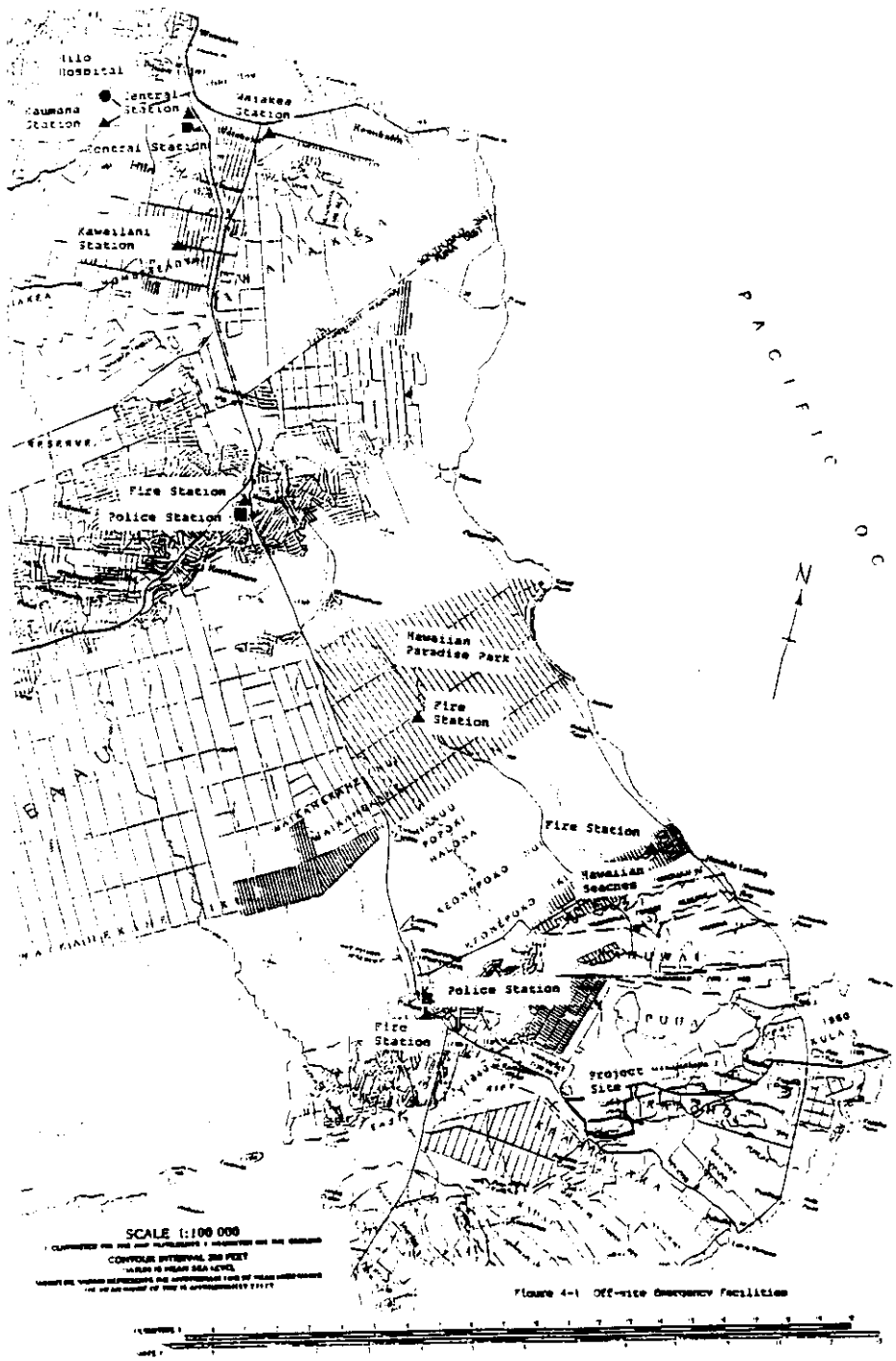


Figure 4-2. Power Plant Potential Hazard Areas and Safety Equipment Locations

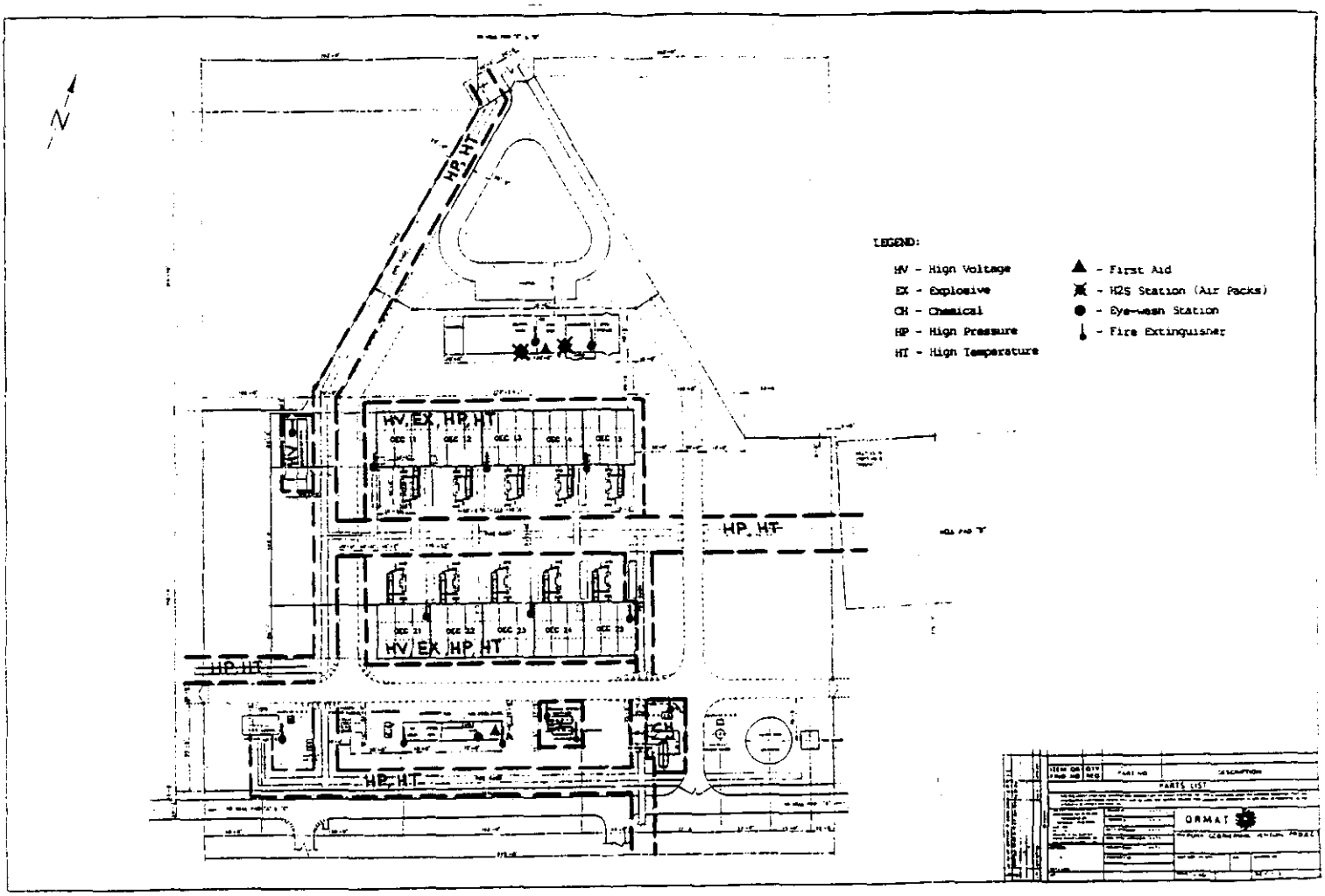


Figure 4-3. Wellpad Potential Hazard Areas and Safety Equipment Locations

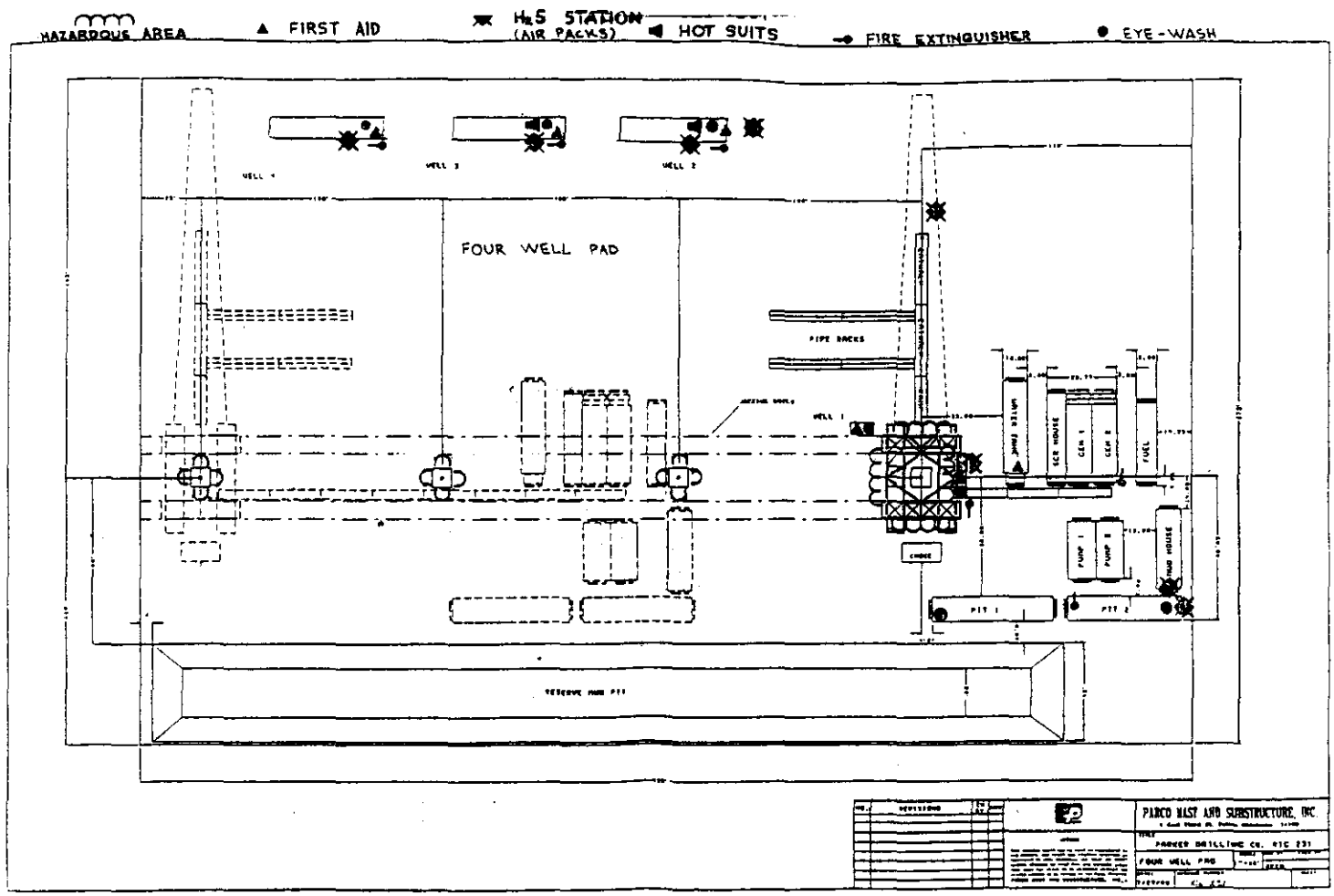


Table 4-1. Off-Site Emergency Facility Capabilities

LOCATION	DISTANCE FROM SITE	FIRE	POLICE	MEDICAL
PAHOA	3 Miles	1 Engine 1 Tanker 6 Men	2 Policemen	1 Ambulance
KEAAU	14 Miles	1 Engine 1 Tanker 6 Men	1 Ranking Officer 6 Policemen	1 Ambulance
HILO	20 Miles	KAWAILANI STATION 1 Engine 6 Men CENTRAL STATION 1 Engine 1 Tanker 4 Men WAIAKEA STATION 1 Engine 1 Heavy Rescue Rig 1 Helicopter 5 Men PUNA DISTRICT Hawaiian Paradise Park 2 Engines Men On-Call Hawaiian Beaches 1 Engine Men On-Call	10 Policemen	HILO HOSPITAL 12 Emergency Rooms 8 Operating Rooms 166 Beds 1 Doctor (24 hrs) 1 Ambulance Does not handle serious burns

Table 4-2. On-Site Emergency and Safety Equipment

LOCATIONS	FIRST AID	AIR PACKS	FIRE EXTINGUISHERS	EYEWASH
Wellpad	3	12	10	7
Power Plant	2	2	32	1
Staging Area	1		10	

Table 4-3. On-Site Hydrogen Sulfide Detection Equipment

LOCATION	DRILL RIG H2S MONITORS[1]	PORTABLE H_2S DETECTORS		AIR QUALITY MONITORING STATIONS[2]
		DRAEGER[3]	JEROME[4]	
Well Pad	3	3	1	
Power Plant		3		
Staging Area			1	
Project Boundary				2

TYPE OF MONITORING EQUIPMENT

[1] Plant RAT 4-20 mA H_2S detector, B&W Technologies, Ltd.

[2] Monitor Labs Model 8780 H_2S detector

[3] Draeger Model #31, V 100 cm

[4] Jerome 631-X H_2S Analyzer

5 PGV EVACUATION PLAN

This section outlines what will be done to prepare for and implement the evacuation of people from the site and the surrounding area, as necessary, and equipment from the site, in the event that an evacuation is necessary.

5.1 Evacuation of Persons On-site

The following are the on-site features which will be in place in preparation for evacuating persons that are on site at the time that an evacuation is required from the site:

- PGV Chain-of-Command:
  The PGV chain-of-command (Chapter 3) will be implemented when an emergency response condition exists at the site.

- On-site Warning:
  A loud horn will be located on the active wellpad (while drilling) and in the power plant area after production is initiated. This horn alarm will sound continuously in the event that a facility emergency situation exists at the site. The alarm will be turned off after the facility emergency condition is over or after all personnel are accounted for and control measures have been implemented.

- On-site meeting points (see Figure 5-1):
  In the event of a facility emergency at the site requiring evacuation, all on-site PGV and contractor staff, except those designated to deal with an emergency response at the site, are to proceed to one of three possible

meeting points. The first response meeting point will be at the control building. If that site is not suitable, the second will be at the staging area for the site on the Pahoa-Kapoho Road.

If neither of those sites are suitable, the third will be on the project property near the intersection of the Pahoa-Kapoho Road and the Pahoa-Pohoiki Road.

- On-site Personnel Roster:

  A roster of all PGV and contractor staff who are at the site will be maintained in a central location at the wellpad until the staging area is operational, at the staging area until the power plant building is completed, and at the power plant after the staging area is closed.

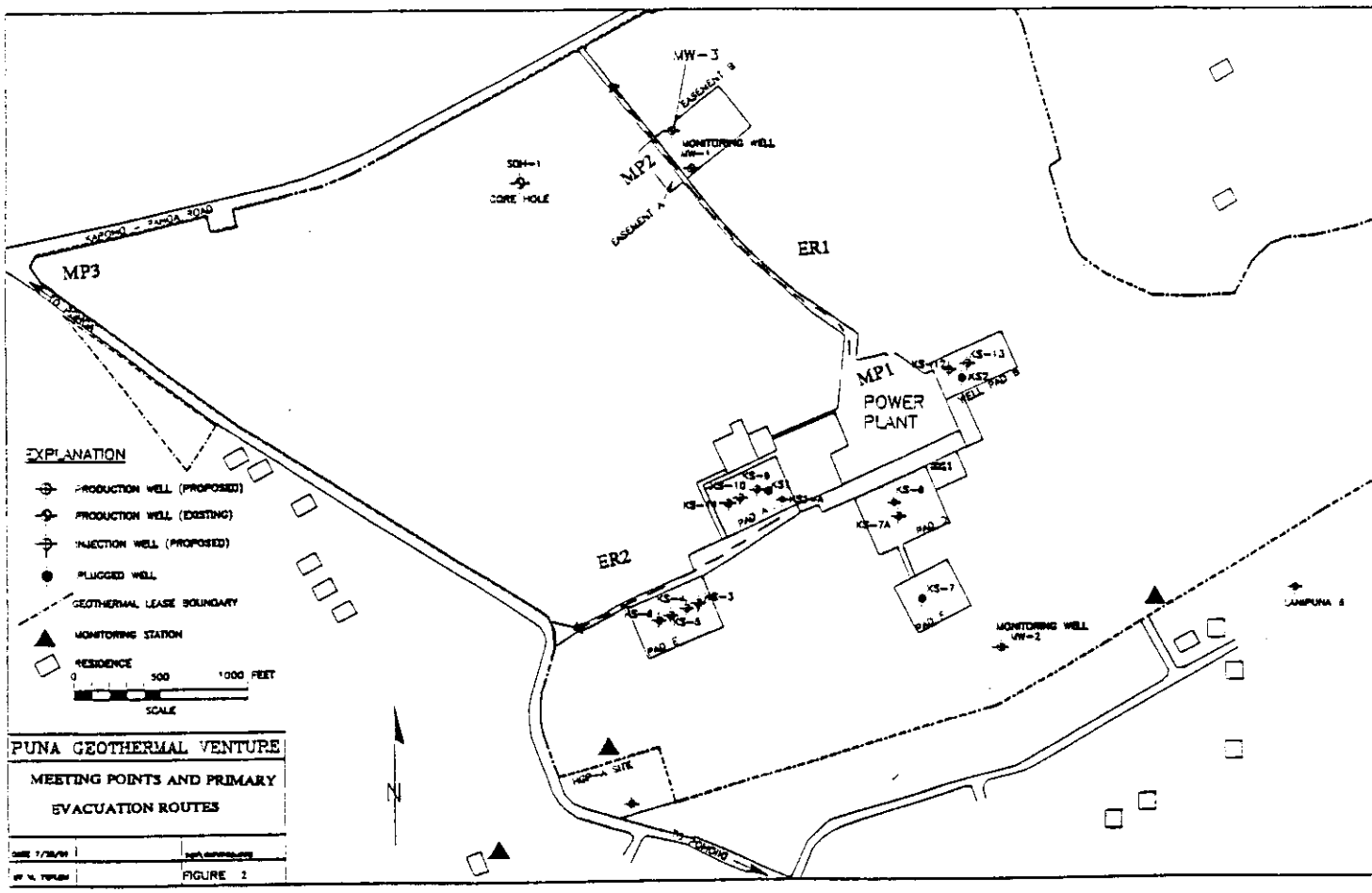
- Evacuation Routes:

  Primary and secondary evacuation routes from the active wellpad and the power plant will be posted and clearly marked. There are two main entries into the site (Figure 5-1). These routes will be clearly marked as the primary evacuation routes away from the power plant and wellpad areas. The two secondary alternative evacuation routes will be marked from both the wellpad and the power plant according to the road access on the site.

- Orientation of PGV, Contractor Staff, and Other On-site Persons:

  All persons entering beyond the staging area onto the site will be given an orientation regarding safety at the site, the necessity for maintaining an accurate and updated roster, and the location of facility emergency response evacuation routes and meeting points.

Figure 5-1. Meeting Points and Primary Evacuation Routes



- Site Command Post:

  A command post will be established at one of the designated meeting areas to deal with a facility emergency situation. Additional details related to the command post are in Section 8.

5.2 Evacuation of Nearby Residents

The CDA has the responsibility of providing the warning to, and to effect the implementation of, the evacuation of any residents or other members of the public from the appropriate hazard area surrounding the site, as necessary. Warning to these residences will be provided by the CDA. PGV will provide assistance in this regard, as directed by the CDA. PGV anticipates no project-created situation which would not provide sufficient time for the CDA to warn or evacuate the public, as appropriate.

PGV has prepared for, and submitted to, the Hawaii County Planning Department, a map showing residences located within 3,500 feet of the project boundary as specified by the Geothermal Resource Permit. PGV will update this map, as appropriate, and submit a copy to CDA prior to the commencement of project operations.

5.3 Removal of Equipment

Should any of the natural hazards discussed in Section 8.1 threaten project facilities, PGV may elect to remove portable construction and drilling rig equipment from the project site, providing adequate time exists for this to be done without endangering the

health or safety of staff undertaking the actions. In general, the equipment to be removed and the procedures to be used will be similar to those presented in Table 5-1.

Table 5-1. Equipment Removal Activities and Procedures

5.1 During Well Drilling

* Place 100 foot cement plug at bottom of well casing, remove drill pipe and laydown.
* Shut-in Blow-Out Preventor (BOP), including master valve.
* Evacuate all mobile and portable equipment (drill pipe, trailers, air compressor, mud logging trailer, etc.).
* Remove BOP and install blind flange on wellhead valve.
* Fill well cellar with cinders.
* Laydown rig, remove engine-generators, Silicon Control Rectifier (SCR) unit, tool shed and mud house.
* Disassemble and remove mast and sub-structure, mud tanks, fuel tanks, tracking system and other rig equipment from site.

5.2 During Plant Construction or Operation

WELLPADS

* Shut off well flow by closing the electro-pneumatic control valve that supplies geothermal fluid to the wellpad separator.
* Close the manual master valve on the wellhead assembly
* Remove pipes around the wellhead.
* Disassemble wellhead down to the top of the bottom master valve.
* Place a blind flange on top of the master valve.
* Fill the well cellar with cinders to the surface.

POWER PLANT

* Remove all other portable and construction equipment as time permits.
* Drain tanks holding chemicals into chemical tanker trucks (one tanker per caustic tank) and remove from site.
* If access to the site is cut off or if there is insufficient time to complete removal of caustic, drain tanks into sump and fill tanks with water to prevent vaporization of residue caustic solution.
* In case of threat of fire, drain pentane from Ormat Energy Converter (OEC) units to the storage tanks and, if necessary, from storage tanks into tanker trucks and remove from site.

PGV General Response:

Once a facility emergency situation occurs or is indicated which could threaten the health, safety, or welfare of the persons in the vicinity of the project site, PGV will:

1. Immediately notify CDA and other appropriate agencies of the nature and anticipated impacts and duration of the emergency situation in accordance with Table 3-1.
2. Turn on a battery-powered radio for Emergency Broadcast Systems (EBS) announcements, if appropriate.
3. Establish a Command Post at the site.
4. Implement the Chain-of-Command (Figure 3-1, Page 3-4, and Table 3-2, Page 3-3), including verification of the status of all on-site persons.
5. Implement the Evacuation Plan (Chapter 5), as appropriate.
6. Provide environmental monitoring data to the Department of Health and to the County Civil Defense.
7. Take whatever follow-up appropriate actions are necessary to deal with the facility emergency situation.

Reporting:

All post-notification reporting related to these type of emergencies will be done as soon as possible during the emergency, and afterwards according to the Post Emergency Response Procedure identified in Appendix D.

The following sections describe the specific actions that will be followed if the following upset conditions requiring emergency response arise:

1. Geothermal steam and fluid releases from the reservoir or power plant.
2. Fire that threatens the site facilities and has the potential for moving off-site.
3. Any event creating very high continuous noise levels.
4. Chemical spills which could move off-site.

8.2.1 Geothermal Steam and Fluid Releases

Nature of Hazard

The geothermal resource produced from the reservoir through the wells drilled by PGV consists principally of high-temperature steam. When produced to the surface, the wells also bring geothermal "brine", consisting of numerous chemical and metallic salts, and "noncondensible" gases, such as carbon dioxide, hydrogen sulfide (H_2S), nitrogen and hydrogen. Appendix H contains a discussion of the chemistry of the geothermal fluids contained in the geothermal reservoir. During an uncontrolled release of steam from the reservoir, the geothermal brine and noncondensible gases would most likely also be released from the reservoir and into the environment.

Because of its toxicity and concentration, of all the components of the geothermal resource the H_2S gas is the component of most significant concern. H_2S gas is a colorless gas with a "rotten egg" odor which is slightly heavier than air. H_2S is acutely toxic in high concentrations (in the range of 400,000 to 700,000 ppb). H_2S at 10,000 ppb is considered the acceptable limit for worker exposure for 8 hours per day, 40 hours per week. At 10,000 ppb, H_2S is documented to be an eye irritant. It is readily detectible down to levels of about 5 ppb.

GENERAL CHARACTERISTICS OF HYDROGEN SULFIDE	
Concentration (ppb)	Characteristics
400,000 to 700,000	Acutely toxic
10,000	Acceptable worker exposure for 40 hours per week - documented eye irritant
1,000	Hawaii Department of Health concentration limit for required evacuation to protect public health and defined "Warning" level (one-hour average)[1]
25	Hawaii Department of Health concentration limit for routine PGV project operations and defined "Watch" level (one-hour average)
5	Generally recognized level of odor detectability

[1] The decision to actually order an evacuation is typically made in the field by the appropriate responsible agency(ies) based not on waiting on field measurements to document that the established one-hour average "Warning" level has been exceeded, but on the professional judgement of the agency(ies), based on all the data available at that time, as to whether or not the incident has the potential to exceed the established one-hour average "Warning" level.

HDOH has set a one-hour average ambient air concentration of 25 ppb H_2S as the lower limit for requiring notification to the CDA, and set a one-hour average ambient air concentration of 1,000 ppb H_2S as the lower limit for requiring evacuation. For the purposes of this PGV ERP, these levels have been designated as follows: 25 ppb = "Watch" and 1,000 ppb = "Warning". The decision to actually order an evacuation is typically made in the field by the appropriate responsible agency(ies) based not on waiting for field measurements to document that the established one-hour average "Warning" level has been exceeded, but on the professional judgement of the agency(ies), based on all the data available at that time, as to whether or not the incident has the potential to exceed the established one-hour average "Warning" level.

As stated above, because of its toxicity and concentration in the geothermal fluid, H_2S is the component of the geothermal fluid of greatest significance. However, some of the other components known to be in the geothermal brine and noncondensible gas in small amounts, such as lead and ammonia, have been recognized as potential health hazards when found in sufficiently high concentrations. Other components, such as acidic aerosols and total particulates which may be formed in the atmosphere once the geothermal fluid is discharged during a well uncontrolled flow event, may also be potential health hazards if produced in sufficiently high concentrations, as may other components which are typically associated with geothermal fluids but which have not yet been quantified from samples of the PGV geothermal fluid. The HDOH-established "Watch" and "Warning" levels for H_2S have been set at levels to protect public health from H_2S and all other non-H_2S components of the geothermal fluid. Appendix H contains a more complete discussion of the current understanding of the chemistry of the PGV geothermal resource, including these other components.

The release of high temperature steam containing H_2S gas into the atmosphere may occur under different scenarios. To determine the "worst case" conditions under which such emissions could occur during an uncontrolled flow event at any wellpad, or during specified power plant upset conditions, PGV conducted a simplified hazard analysis of the possible well-related uncontrolled flow event and power plant upset scenarios to determine the range of credible situations under which hydrogen sulfide and other contaminants could be released from any well or the power plant (see Appendix H). On the basis of the available existing information, the "worst case" credible parameters of the geothermal resource (geochemistry [hydrogen sulfide and other chemical constituents], likely maximum credible productivity [flow rate], temperature [enthalpy], etc.) which would be used as the emitted (released) constituents in conducting a hazard analysis for these emissions (see Appendix H).

In order to determine the maximum ("worst case") impacts which could result from each of these 12 different emission scenarios, PGV conducted an impact analysis utilizing a standard air dispersion model (ISCST) accepted by the U.S. Environmental Protection Agency using a standard screening set of 33 different meteorological conditions to ensure that the "worst case" meteorological conditions for each emission scenario and receptor point was evaluated (see Appendix H). The results of this air dispersion modelling are presented in Appendix H. Table 8-2 summarizes the results of the modelling for each of the 12 release scenarios, organized on the basis of the maximum distance at which each of the HDOH-specified threshold levels are predicted to be exceeded under the "worst case" meteorological conditions, and the point and concentration of maximum impact. Table 8-2 has further categorized each release scenario by which, if any, of the HDOH-specified threshold levels is exceeded by the maximum predicted concentration,

Table 8-2. Summary of Modelled H_2S Emissions

TABLE 8: SUMMARY OF MODELLED HYDROGEN SULFIDE IMPACTS				
RELEASE SCENARIO	MAXIMUM OFF-SITE (>0.3 km) DISTANCE FROM SOURCE (km) TO IDENTIFIED ACTION LEVEL		POINT OF MAXIMUM PREDICTED OFF-SITE IMPACT (>0.3 km)	
	"WATCH" LEVEL (25 ppb)	"WARNING" LEVEL (1,000 ppb)	CONCENTRATION (ppb)	DISTANCE FROM SOURCE (km)
TYPE "1" EVENTS (EXCEED ONLY THE "WATCH" ACTION LEVEL)				
1. Abated vertical flow through diverter/muffler	0.9 km	N/A	40.3	0.4
9. Abated vertical flow from the mud sump	2.8 km	N/A	57.1	0.4
8. Abated vertical flow from the mud tanks	4.5 km	N/A	253.1	0.4
11. Unabated noncondensible gas flow	5.3 km	N/A	935.7	0.4
4. Unabated vertical flow through 13-3/8" casing	25.+ km	N/A	146.0	0.6
5. Unabated vertical flow through 9-5/8" casing	25.+ km	N/A	146.0	0.6
12. Unabated vertical flow through power plant steam release facility	25.+ km	N/A	150.6	0.8
6. Unabated vertical flow through drill rig subbase	25.+ km	N/A	248.8	0.5
2. Unabated vertical flow through diverter/muffler	25.+ km	N/A	403.4	0.4
7. Unabated vertical flow through area of fractured rock	25.+ km	N/A	789.4	0.4
TYPE "2" EVENTS (EXCEED THE "WATCH" AND "WARNING" ACTION LEVELS)				
10. Unabated horizontal flow through a 4" choke line	25.+ km	3.7 km	6,395[1]	0.4
3. Unabated horizontal flow through diverter	25.+ km	6.7 km	12,788[1]	0.4

[1]Note that these scenarios can and will be quickly controlled through closing valves to shut in the well, resulting in a significantly reduced emission rate over any one hour period. The decision to actually order an evacuation is typically made in the field by the appropriate responsible agency(ies) based not on waiting for field measurements to document that the established one-hour average "Warning" level has been exceeded, but on the professional judgement of the agency(ies), based on all the data available at that time, as to whether or not the incident has the potential to exceed the established one-hour average "Warning" level.

thus ensuring that each release scenario is categorized by the highest estimated modelling impact.

As shown in Table 8-2, ten (10) of the modelled release scenarios result in predicted ambient air concentrations in excess of the HDOH-established one-hour 25 ppb H_2S notification "Watch" action limit, but do not produce predicted results in excess of the HDOH-established one-hour 1,000 ppb H_2S "Warning" action limit. These include all of the uncontrolled well-related releases (scenarios 1-2 and 4-9) and the continuous power plant-related release (scenario 12). The short-term, or "puff", release of hydrogen sulfide and other noncondensible gases from the power plant also falls in this category. Figure 8-1 has been drawn to show the predicted maximum off-site distance to the specified ambient hydrogen sulfide concentrations from each PGV wellpad and the plant site from all of these "Type 1" scenarios; that is, Figure 8-1 shows the worst of the worst case impacts predicted from all of the scenarios which maximum impact did not exceed the HDOH 1,000 ppb one-hour average "Warning" level. Thus, Figure 8-1 serves as the single worst case emergency planning and response map for all of these ten (10) listed "Type 1" scenarios; all predicted impacts were not greater than those shown on Figure 8-1 from any of the ten (10) scenarios.

The two well-related releases (scenarios 3 and 10) which have been modelled to exceed the HDOH-established "Warning" levels for one-hour hydrogen sulfide averages ("Type 2" events) are unique from all the other well-related discharges in more than predicted maximum impacts. First, the high predicted impacts result from the horizontal nature of the discharge of the geothermal fluid; that is, the horizontal discharge of geothermal steam and noncondensible gases creates an impact significantly larger in a directly downwind direction than the same flow would if directed in a vertical direction. Second,

Figure 8-1. Worst Case "Type 1" Hydrogen Sulfide Scenario 10

FIGURE 8-1 IS LOCATED IN BACK POCKET OF DOCUMENT

each of these upset discharges can each be stopped or redirected vertically by either manually or remotely shutting in one of the upstream control valves even after the discharge occurs. Thus, although these two discharges have been modelled as if the discharge of geothermal steam and hydrogen sulfide would continue in a horizontal direction for more than an hour, through this modelling PGV has recognized that horizontal discharges of the geothermal fluid can produce unacceptably high impacts, and PGV can and will immediately terminate any such discharge if it occurs. Thus, any impact resulting from the short-term horizontal discharge of geothermal fluid will be short-term, and the actual hydrogen sulfide impact will be much less than that predicted in Table 8-2, and directly proportionate to the time the horizontal discharge continues.

The horizontal discharge of geothermal fluid modelled in scenarios 3 and 10 is directional (that is, the magnitude of the impact depends upon the direction of the discharge and the direction of the wind). Figure 8-2 has been prepared to graphically show the focused nature of the emissions and impacts (a "Type 2" event) for scenario 3 from a single source if the emission were to continue for an entire hour under the worst case conditions. However, as stated above, PGV will immediately terminate any created horizontal discharge and the actual impact will be proportionally less.

A preliminary analysis of the possible impacts and health hazards which could result from the uncontrolled emission of the geothermal brine and noncondensible gases was also conducted by PGV and HDOH (see Appendix H). Based on this preliminary analysis, none of the non-H_2S components of the geothermal fluid appear to be released to, or formed in, the environment in concentrations high enough to significantly increase the level of health hazard created by the simultaneous emission of the H_2S. As a result, the levels of H_2S described above are used exclusively herein as the emergency response

Figure 8-2. Worst Case "Type 2" Hydrogen Sulfide Scenario

FIGURE 8-2 IS LOCATED IN BACK POCKET OF DOCUMENT

planning criterion. However, PGV, under the review of HDOH, will be undertaking a more detailed sampling and analysis program for these non-H_2S components during the first well flow test following acceptance of this revision of the ERP. PGV has committed to specifically review the new geothermal chemistry information with HDOH and revise the ERP as appropriate.

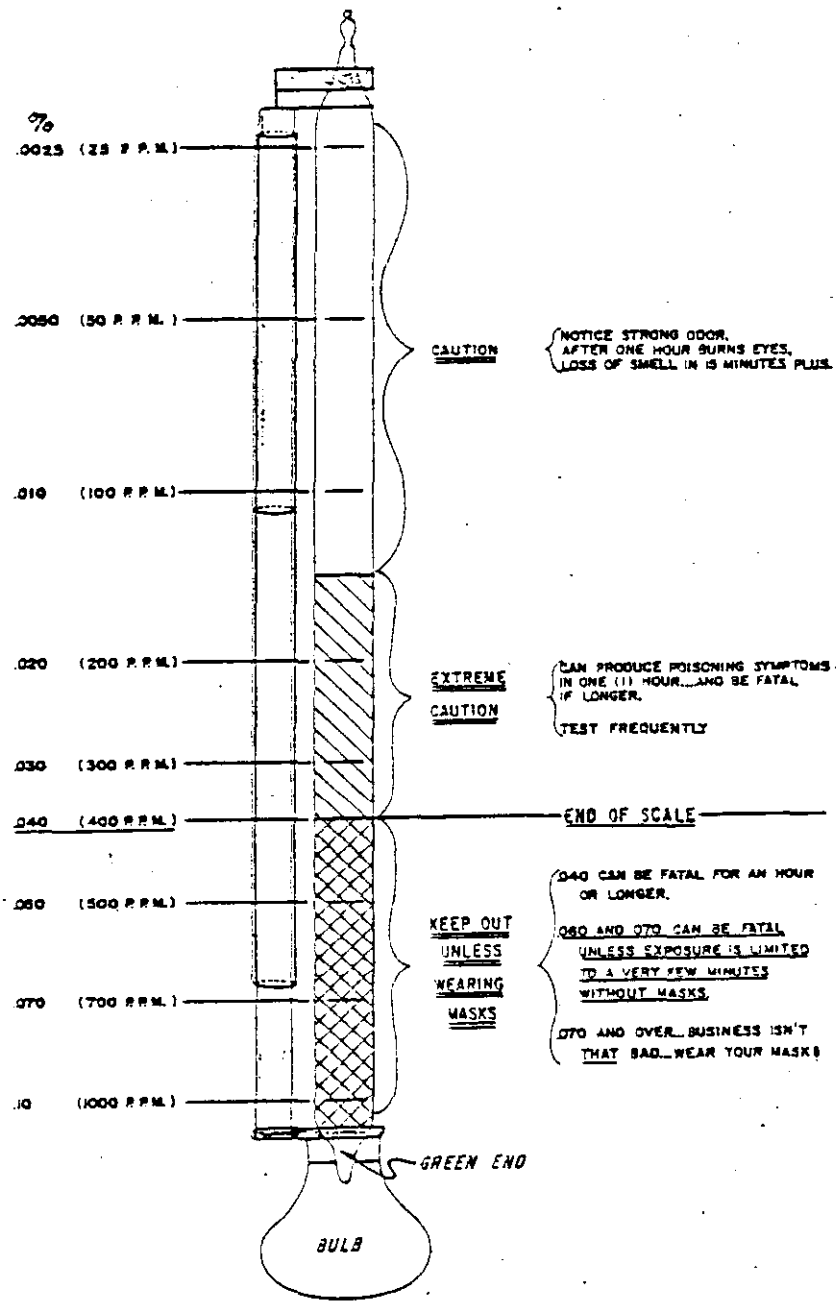
Response Actions

PGV will immediately notify the CDA, HDOH - Clean Air Branch, and HDOH - Hazard Evaluation and Emergency Response Branch, in the event that any of PGV's operations result in an uncontrolled steam release which produces, or has the potential to produce, an exceedance of the appropriate ambient H_2S concentrations established by the HDOH - Clean Air Branch and HDOH - Hazard Evaluation and Emergency Response Branch.

In the event of an uncontrolled steam release, PGV will take the following actions to supplement the ones outlined at the beginning of Section 8.2:

1. Determine the nature (estimated duration and emissions, etc.) and "type" of release (Type "1" [Figure 8-1] or Type "2" [Figure 8-2]) and immediately communicate this information to CDA, HDOH - Clean Air Branch, and HDOH - Hazard Evaluation and Emergency Response Branch (Table 3-1, Page 3-2).
2. Immediately implement perimeter monitoring with portable H_2S meters.
3. Maintain constant coordination with CDA, providing all assistance as requested.
4. Act to control and/or abate and vertically direct the uncontrolled source of the H_2S, as below:

MSA HYDROGEN SULFIDE (H_2S) GAS DETECTOR



Two air masks with hose line units connected to two 330 cu. ft. compressed air bottles, mounted on a portable cart will be available in the trailer unit. These large bottles on the portable cart can be moved to the desired location and connected to the air masks with 25 foot lengths of hose. This large two-bottle unit will provide two men over 8 hours of breathing air with these hose line units.

All self-contained breathing units will be equipped with demand type regulators and will have an audible alarm that signals the wearer when the breathing air supply is getting low. A visable pressure gauge also indicates the amount of breathing air supply available to the individual at all times he is wearing the equipment.

All persons working in the area will be required to wear the air breathing equipment during critical or emergency periods.

A resuscitator with a spare oxygen bottle will be provided in the equipment trailer for emergency first-aid treatment if necessary.

TRAINING

Every person at the location working in any capacity will be required to review the emergency procedures and will participate in the training program.

The toolpusher will direct the first training program to indoctrinate all persons on the location in the proper use of the self-contained breathing equipment. After instruction on the proper use, each person will put on and use the equipment for a few minutes to become familiar with its operation. The emergency procedures will be reviewed at the crew weekly safety meetings and at least once each month each person working on the location will put on the self-contained breathing equipment so that he becomes familiar with its use and will be able to put it in to use quickly.

In the training meetings, it will be stressed that encountering hydrogen sulfide in drilling operations is very serious and each person will have to learn and follow procedures carefully and quickly.

An explanation of the rig layout in relation to the prevailing wind, the use of fans, the utilization of the wind sock and wind streamers, and the importance of moving up wind in the event of evacuation will be stressed.

Care and cleaning of the self-contained breathing equipment will be carried out and records of the use of the equipment will be kept.

All persons will be instructed on the use of the portable hydrogen sulfide detection instruments, the emergency alarm system, the resuscitation equipment, and other first-aid procedures in the event a person is overcome by hydrogen sulfide.

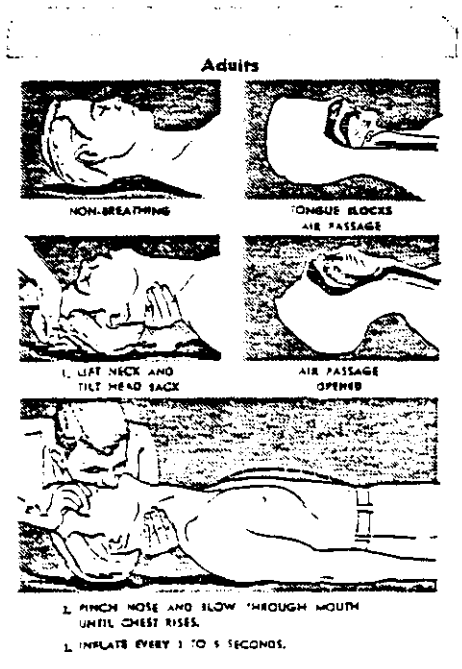
FIRST-AID

Wear breathing equipment when removing a person from an area that is suspected to be contaminated by hydrogen sulfide. Remove the victim to fresh air and if the person is not breathing, start mouth to mouth resuscitation as soon as possible.

At the first opportunity replace the mouth to mouth resuscitation with the resuscitation equipment.

Continue to administer oxygen when the person begins breathing.

Treat for shock and call an ambulance and doctor.



PRECAUTIONS TO BE TAKEN WHEN HYDROGEN SULFIDE IS SUSPECTED

If an area is suspected to be contaminated by hydrogen sulfide, put on the self-contained breathing equipment, enter the area, and make tests with the hand operated hydrogen sulfide detector tubes.

When a hydrogen sulfide emergency exists, work in pairs to prevent anyone from entering a contaminated area alone.

Do not enter an enclosed space where hydrogen sulfide may have accumulated without wearing protective breathing equipment. If the co-worker is over an arms length away, secure him with a life-line and station the co-worker in a clear area.

When hydrogen sulfide is detected, place warning signs in the immediate area and also warning signs at the entrance to the location.

In the event of sudden gas release with no advance warning, personnel are to hold breath, put on protective breathing equipment, aid any persons in distress, proceed to designated clear area and receive instructions from driller and toolpusher.

EFFECTS OF HYDROGEN SULFIDE ON METAL

Hydrogen sulfide disolves in water to form a weak acid that can cause pitting of metal, and in a mixture of oxygen and/or carbon dioxide, this action is increased. The most significant action of hydrogen sulfide is causing hydrogen embrittlement known as sulfide stress cracking. Sulfide stress cracking is a result of metals being subjected to high stress levels in a corrosive environment where hydrogen sulfide is present. The metal will often fail in a brittle manner. Sulfide stress cracking of steel is dependent upon and determined by: strength (hardness) of the steel - the higher the strength, the greater the susceptibility to sulfide stress cracking. Steel having yield strengths up to 95,000 psi and hardness up to ROCKWELL 22, are greatly resistant to sulfide cracking. These limitations can be extended slightly higher for properly quenched and tempered materials.

Total member stress (load) - the higher the stress level, the greater the susceptibility to sulfide stress cracking.

Corrosive environment - corrosive reactions, acids, bacterial action, thermal degradation, or low pH fluid environment.

DRILLING PLAN

All zones known to contain or suspected to contain hydrogen sulfide are to be noted on the well work plan.

Since hydrogen sulfide is highly corrosive to steel, and at high stress levels, extreme metal embrittlement may occur in a very short time, all tubular goods, well head equipment, and other drilling related drilling equipment which may be exposed to hydrogen sulfide during the course of operations, are to be selected, considering the metallurgical properties which will reduce the chance of failure.

To minimize intrusion of hydrogen sulfide gas into the wellbore, drilling mud weight should be controlled at a level to prevent gas intrusion, so that the only hydrogen sulfide entering the borehole will be from the drilled cuttings. Remember, however, that excessive mud weight can result in lost circulation.

Plan the drilling program to include use of a hydrogen sulfide scavenger in the drilling fluid system to reduce the reaction of hydrogen sulfide on the drill string, mud pumps, chokes, and piping. Scavengers also reduce the amount of hydrogen sulfide reaching the surface. Hydrogen sulfide's scavengers may be added as required to maintain a concentration in the drilling fluid, sufficient to react with all hydrogen sulfide entering the drilling fluid.

The pH of the drilling fluid should be maintained above 9.5 at all times. In some cases, a pH of approximately 11.5 is required to prevent a reduction in a pH below 9.5 while making a trip with the drill string.

If the over-all well plan will permit the use of an oilbase drilling fluid, the risk of metal embrittlement during drilling operations will be reduced.

CONTINUENCY

When moving the rig to location, obtain a map showing all buildings within a two-mile radius of the well location. All occupied buildings within the two-mile radius are to be marked on the maps with the number of people that usually occupy each building. Names are to be listed and contacts made after drilling begins, to explain the hazards in the event that evacuation might be necessary if an extreme emergency develops.

Make a listing of emergency telephone numbers for the area to include: ambulances, hospitals, doctors, helicopter services, state highway patrol, county sheriff, city police, state civil defense agency, state water and conservation agency.

At the weekly crew safety meetings held by the drillers and toolpushers, detailed operating procedures will be outlined. Emergency procedures and duties of each crew member will be defined.

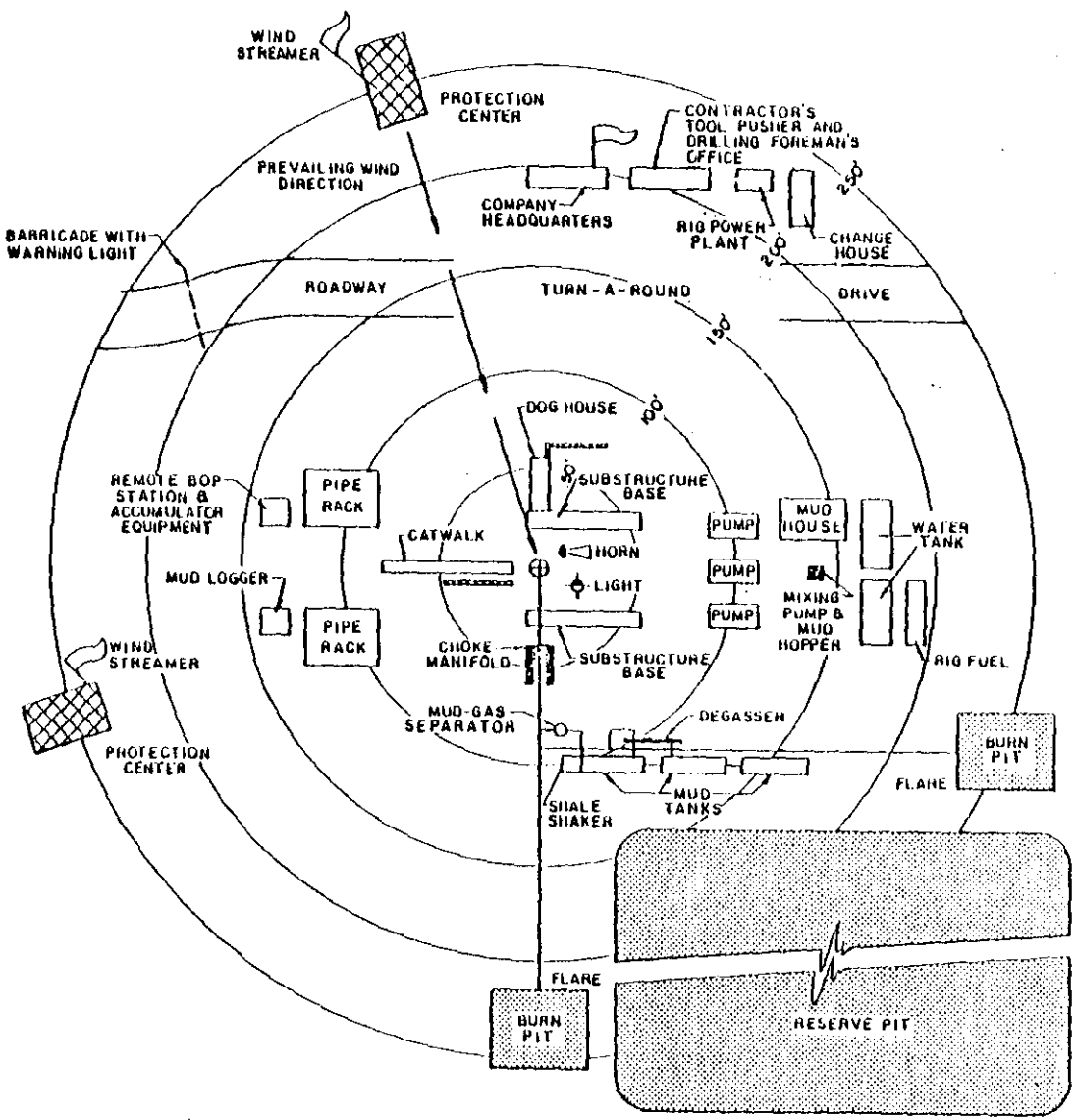
This will include the duties of each crew member when a well control problem occurs while making a trip, and when a well control problem occurs while drilling.

Regular testing and maintenance of blowout preventors will be followed and blowout control drills will be held by each crew.

Crew members will put on self-contained breathing equipment when the hydrogen sulfide concentration in the atmosphere reaches or exceeds 20 ppm.

All persons on the location will wear self-contained breathing equipment when this condition exists, there will be no exceptions.

When coming out of the hole with a core barrel and hydrogen sulfide conditions are expected, the drilling crew is to wear self-contained breathing equipment while pulling the last 20 stands of drill pipe, or at any time hydrogen sulfide reaches the surface. Masks are to be worn while opening the core barrel and examining the core.


WIND STREAMER
PROTECTION CENTER
PREVAILING WIND DIRECTION
CONTRACTOR'S TOOL PUSHER AND DRILLING FOREMAN'S OFFICE
COMPANY HEADQUARTERS
RIG POWER PLANT
CHANGE HOUSE
BARRICADE WITH WARNING LIGHT
ROADWAY
TURN-A-ROUND
DRIVE
DOG HOUSE
SUBSTRUCTURE BASE
REMOTE BOP STATION & ACCUMULATOR EQUIPMENT
PIPE RACK
CATWALK
HORN
LIGHT
PUMP
PUMP
PUMP
MUD HOUSE
WATER TANK
MUD LOGGER
MIXING PUMP & MUD HOPPER
PIPE RACK
CHOKE MANIFOLD
SUBSTRUCTURE BASE
RIG FUEL
WIND STREAMER
MUD-GAS SEPARATOR
DEGASSER
BURN PIT
PROTECTION CENTER
FLARE
SHALE SHAKER
MUD TANKS
FLARE
BURN PIT
RESERVE PIT

APPENDIX C

COURSE CONTENT - BLOWOUT PREVENTION TRAINING

PARKER DRILLING COMPANY BASIC WELL CONTROL COURSE

SURFACE AND SUBSEA CURRICULUM OUTLINE

JOB CLASSIFICATIONS - DRILLERS, TOOLPUSHERS, AND OPERATOR'S REPRESENTATIVES

****** FIRST DAY - (3 HOURS; 10 MINUTES) ******

0800 - 0815 (15 MINUTES)

INTRODUCTION AND ADMINISTRATION

0815 - 0845 (30 MINUTES)

I. RELEVANT GOVERNMENT REGULATIONS AND COMPANY OPERATING PROCEDURES FOR BLOWOUT PREVENTION AND WELL CONTROL.
(30 CFR SUBPARTS C, D, G, AND O) <MANUAL SECTION XVII>

0845 - 1015 (1 HOUR; 30 MINUTES)

I. BASIC WELL CONRTOL CONCEPTS.
(30 CFR SUBPART O, 250.212 (c) (9) (ii))
<MANUAL PAGES 1, 3, 5, 6, 23, 96, 162-165, 366>

A. HYDROSTATIC PRESSURE.

1. FRICTION PRESSURE. <MANUAL PAGE 11>

B. PRESSURE TO MUD WEIGHT. <MANUAL PAGE 21>

1. EQUIVALENT MUD WEIGHT. <MANUAL PAGE 11>
2. EQUIVALENT CIRCULATING DENSITY.

C. CASING CEMENTING AND TESTING. (IN ACCORDANCE WITH SUBPART D, 250.54; 250.55 (a), (c), (d); SUBPART O, 250.212 (9) (c) (iii) and (v)) <MANUAL PAGES 164(A) AND 164(B)>

1015 - 1025 (10 MINUTES) BREAK

1035 - 1145 (1 HOUR; 30 MINUTES)

D. PRESSURE INTEGRITY TEST OR FORMATION PRESSURE TEST. (IN ACCORDANCE WITH SUBPART D, 250.54 (6); SUBPART O, 250.212 (c) (9) (ii)) <MANUAL PAGES 162-166, 198-200>

1. FORMATION LEAK-OFF TEST.
2. EQUIVALENT MUD WEIGHT TEST.

E. MAXIMUM ALLOWABLE CASING PRESSURE. (COMPLIANCE WITH SUBPART D, 250.60 (6)).

1145 - 1230 (45 MINUTES) LUNCH

1230 - 1345 (1 HOUR; 15 MINUTES)

I. PERFORM SIMULATED TEST IN ACCORDANCE WITH MMS REQUIREMENTS.

A. CASING PRESSURE TEST.
B. LEAK-OFF AND/OR EQUIVALENT MUD WEIGHT TEST.

1345 - 1430 (45 MINUTES)

I. DETECTING KICKS. (SUBPART D, 250.60 (b), SUBPART O, 250.212, (c) (5)) <MANUAL SECTIONS V AND VI>

A. DRILLING BREAK <MANUAL PAGES 107, 109>
B. FLOW INCREASE <MANUAL PAGES 116, 117>
C. PIT GAIN <MANUAL PAGES 116, 117>
D. PUMPS (STROKES/PSI) <MANUAL PAGE 109>
E. GAS CUT MUD <MANUAL PAGES 110-111>
F. BACKGROUND GAS <MANUAL PAGE 111>
G. MUD PROPERTIES <MANUAL PAGE 107>
H. SHALE PROPERTIES <MANUAL PAGES 105-107>
I. TRIP VOLUMES <MANUAL PAGES 83-89, 110>
J. FLOWING WELL <MANUAL PAGES 116, 117>

1430 - 1440 (10 MINUTES) BREAK

1440 - 1515 (35 MINUTES)

I. SHUT-IN PROCEDURES - SURFACE STACK. (SUBPART O, 250.212 (c) (6)) <MANUAL SECTION VII>

*II. SHUT-IN PROCEDURES - SUBSEA STACK. (SUBPART O, 250.212 (c) (6)) <MANUAL PAGES 322-326>

1515 - 1630 (1 HOUR; 15 MINUTES)

III. DIVERTER PROCEDURES AND SHALLOW GAS KICKS.
(SUBPART D, 250.58; SUBPART O, 250.212 (c) (2), (11) (i)-(iii))
<MANUAL PAGES 95, 188-191, 122, 329-330, 381-387>

A. STEELHEAD BLOWOUT/FIRE.
B. BOP DRILLS <MANUAL PAGES 95, 188-191>
C. MUD ANALYSIS <MANUAL PAGES 381-386>
1. BARITE NEEDED TO INCREASE DENSITY X ppg.

1630 - 1715 (45 MINUTES)

I. WELL INFORMATION FORM. (SUBPART O, 250.212 (9))
<MANUAL SECTION XIV>

A. DRILL STRING VOLUMES <MANUAL PAGES 336-338>
B. PUMP OUTPUT - bbl/stk. <MANUAL PAGES 335, 336>
C. PUMP DISPLACEMENT - STROKES/TIME. <MANUAL PAGE 338>

II. OUTSIDE ASSIGNMENT "A".

* DENOTES SUBSEA QUALIFICATION ONLY.

****** SECOND DAY - (8 HOURS; 10 MINUTES) ******

0800 - 0815 (15 MINUTES)

I. QUESTIONS

0815 - 0915 (1 HOUR)

I. WELL INFORMATION FORM (CONTINUED FROM FIRST DAY).

A. ANNULUS CAPACITIES AND VOLUMES. <MANUAL PAGES 338-342A>
B. PUMP DISPLACEMENTS <MANUAL PAGE 342A>

0915 - 1000 (45 MINUTES)

I. KICK CAUSES (SUBPART O, 250.212 (3), (4), SUBPART D, 250.60 (3))
<MANUAL SECTION IV>

A. TRIPPING - COMPANY TRIP FORMS WET AND DRY.
1. SWAB/SURGE <MANUAL PAGES 90-92>

1000 - 1010 (10 MINUTES) BREAK

1010 - 1200 (1 HOUR; 50 MINUTES)

I. KICK CAUSES - CONTINUED
B. LOST CIRCULATION <MANUAL PAGES 89, 165, 168>
1. RIG 66
2. TRIP SLUGS.
3. GUNK PILL - BARITE PLUG - CEMENT.
C. INSUFFICIENT DENSITY OF DRILLING FLUID.
1. SPOTTING PILLS/PLUGS <MANUAL PAGES 201-203, APPENDIX I>
2. SEDIRAN 13
D. OIL BASE MUD KICKS
1. RIG 75 - RIG 165
C. ABNORMALLY PRESSURED FORMATIONS. <MANUAL PAGES 8, 104, 107>
1. RIG 201 AND MANNING RIG

1200 - 1245 (45 MINUTES) LUNCH

1245 - 1400 (1 HOUR; 15 MINUTES)

I. SHUT-IN PRESSURES (SUBPART O, 250.212 (c) (9) (i)-(v))
<MANUAL SECTION VIII>
A. DRILL PIPE AND CASING PRESSURES, PIT GAIN.
1. GAS INFLUX (GAS LAW/GAS MIGRATION) <MANUAL PAGES 31, 17
B. SLOW PUMP PRESSURES
1. SURFACE STACK. <MANUAL PAGES 18, 19, 204>
*2. SUBSEA STACK - CHOKE LINE FRICTION. <MANUAL PAGE 326>

II. WELL CONTROL METHODS (SUBPART O; 250.212 (7))
<MANUAL SECTION VIII>

A. DRILLERS METHOD - ADVANTAGES/DISADVANTAGES
<MANUAL PAGES 128-130>
B. CIRCULATE AND WEIGHT METHOD - ADVANTAGES/DISADVANTAGES
<MANUAL PAGES 133-138>
A. WAIT AND WEIGHT METHOD - ADVANTAGES/DISADVANTAGES
<MANUAL PAGES 130-133>

1400 - 1410 (10 MINUTES) BREAK

1410 - 1530 (1 HOUR; 20 MINUTES)

I. WELL CONTROL PROBLEMS (SUBPART O, (c) (10), (16) (i)-(v), (viii), (19)) <MANUAL SECTIONS IX, XII>

A. DRILL STRING FLOAT.
<MANUAL PAGES 180-182>
B. DRILL STRING PLUG
1. GAS MIGRATION
<MANUAL PAGES 170-171>
C. OFF BOTTOM OR OUT OF HOLE
<MANUAL PAGES 168-170>
1. STRIP/SNUB
D. SUSPECTED H2S
<MANUAL PAGE 309>

1530 - 1715 (1 HOURS; 45 MINUTES)

I. ORGANIZATION AND SUPERVISION OF WELL CONTROL OPERATIONS (1)
(SUBPART O, 250.212, (c) (6), (7), (8), (9), (17); SUBPART D, 250.54 (6), 250.55 (a), 250.60 (6))
<MANUAL SECTIONS VI, VII, VIII, X, XIII>

A. ROUTINE WELL CONTROL OPERATION.
B. SIMULATED LEAK-OFF AND/OR EQUIVALENT MUD WEIGHT TEST.
C. MAXIMUM ALLOWABLE CASING PRESSURE BELOW SHOE.
D. ESTIMATED MAXIMUM SAFE CASING PRESSURE.
*E. SUBSEA SYSTEMS
*1. SLOW PUMP PRESSURE ADJUSTMENTS
*2. KILL LINE/CHOKE LINE PRESSURES W/ GAS AT CHOKE LINE.
*3. RISER CIRCULATION REQUIREMENTS <MANUAL PAGE 330N>
*4. TRAPPED GAS - RISER COLLAPSE

II. OUTSIDE ASSIGNMENT "B"

* DENOTES SUBSEA QUALIFICATION ONLY.

****** THIRD DAY - (3 HOURS; 05 MINUTES) ******

0800 - 0815 (15 MINUTES)

I. QUESTIONS

0815 - 1015 (2 HOURS)

I. BOP CLOSING UNITS (SUBPART D, 250.56, (d), (1)-(3); SUBPART O, 250.212, (c), (13)) <MANUAL PAGES 65, 231C, 330-330M>

A. ACCUMULATOR, MANIFOLD, AND ANNULAR PRESSURES.
1. MAXIMUMS AND RECOMMENDED. <MANUAL PAGES 65, 330G, 330H>
B. REGULATOR VALVES AND PRESSURE ADJUSTMENTS.
C. PRECHARGING <MANUAL PAGES 330B-330F>
D. FLUID VOLUMES <MANUAL 330F-330M>
1. STORED/USEABLE FLUID

II. BOP SYSTEM OPERATING FLUID REQUIREMENTS (IN ACCORDANCE WITH SUBPART D, 250.56, (d), (1)) <MANUAL PAGES 231(C)-(E), 247-250>

A. SURFACE STACK. <MANUAL 247-250>
*B. SUBSEA STACK. <MANUAL 247-250>

III. BOP CLOSING UNIT TESTING. <MANUAL PAGE 231(C)>

A. USEABLE FLUID TEST FORM. <MANUAL PAGE 231E>
B. PRECHARGE TEST - CHARGING/GAUGING ASSEMBLY. <MANUAL PAGE 330
C. ACCUMULATOR PUMPS TESTING. <MANUAL PAGE 330L>
D. MAINTENANCE RECORDS.

*IV. CLOSING UNIT FOR SUBSEA STACK.

A. SIMILARITIES/DIFFERENCES

1015 - 1025 (10 MINUTES) BREAK.

1025 - 1200 (1 HOUR; 35 MINUTES)

I. BOP SYSTEM REQUIREMENTS. (SUBPART D, 250.56, 250.57, 250.59: SUBPART O, 250.212, (c), (13), (14), (15)) <MANUAL PAGES 43-59, 247-308>

A. INSTALLATION <MANUAL PAGES 51-53, 263, 266, 270(B)>
B. OPERATION <MANUAL PAGES 43-50, 55, 262, 263, 270(A)>
C. MAINTENANCE <MANUAL PAGES 51, 53, 257, 258, 265, 270(C)>
D. TESTING <MANUAL PAGES 51, 251-256(C), 259-261, 264, 267-270, 270(D)-(E)>

II. DIVERTER SYSTEM.

A. DESIGN <MANUAL PAGES 57, 329-330, SECTION XVII, SUBPART D, 250.59, (a)-(e)>
B. PRESSURE AND ACTUATION TESTS <MANUAL SECTION XVII, SUBPART D, 250.59 (f) >

III. AUXILLIARY EQUIPMENT.

A. PIT LEVEL INDICATOR <MANUAL PAGES 103, 295-308>
B. TRIP TANK AND FLUID VOLIME MEASURING DEVICE. <MANUAL PAGES 101, 295-308>
C. FLUID RETURN INDICATOR <MANUAL PAGE 102>
D. GAS DETECTOR <MANUAL PAGE 315>
E. GAS SEPARATOR <MANUAL PAGES 113-114>
F. DEGASSER <MANUAL PAGES 114-115>
G. ADJUSTABLE CHOKES - MANUAL AND HYDRAULIC. <MANUAL PAGES 271-294(B)>

1200 - 1245 (45 MINUTES) LUNCH

1245 - 1500 (2 HOURS; 15 MINUTES)

I. ORGANIZATION AND SUPERVISION OF WELL CONROL OPERATIONS (2). (SUBPART O, 250.212, (c), (6)-(9), (17), (3) (iii), (16) (iii), (vii))

A. EXCESSIVE ANNULAR PRESSURE <MANUAL PAGES 162-165>
B. LOSSES DURING CIRCULATION. <MANUAL PAGES 89-91, 167, 168>

1500 - 1510 (10 MINUTES) BREAK.

1510 - 1710 (2 HOURS)

I. ORGANIZATION AND SUPERVISION OF WELL CONROL OPERATIONS (3). (SUBPART O, 250.212, (c), (16) (vi)) <MANUAL SECTION XVIII, APPENDIX V>

A. COMPLICATIONS SAME AS PROBLEM (2) WITH LOSSES MORE SEVERE.

II. OUTSIDE ASSIGNMENT "C".

* DENOTES SUBSEA QUALIFICATION ONLY.

****** FOURTH DAY - (8 HOURS; 05 MINUTES) ******

0800 - 0815 (15 MINUTES)

I. QUESTIONS

0815 - 0945 (1 HOUR; 30 MINUTES)

I. WELL CONTROL PROBLEMS AND POSSIBLE SOLUTIONS.
(SUBPART D, 250.55 (b), SUBPART O, (c) (16) (i)-(v), (21) (iv), (22)) <MANUAL PAGES 170-180, 201, SECTION XVIII, APPENDIX III

A. LUBRICATION TECHNIQUE <MANUAL PAGES 170-180>
1. PIPE STRING PLUGGED, STUCK OFF BOTTOM, OUT OF HOLE, HOLE IN STRING.
a. POSSIBLE SOLUTIONS - REAM PLUG, SHOOT STRING, BACKOFF.

B. LINER LAP TEST (IN ACCORDANCE WITH SUBPART D, 250.55 (b), PLUS NEGATIVE TEST) <MANUAL SECTION XVIII, APPENDIX III>

C. COMPLETION PROBLEMS
1. PACKER FLUIDS, PERFORATING, DST, MULTIPLE COMPLETIONS.

0945 - 0955 (10 MINUTES) BREAK

0955 - 1145 (1 HOUR; 50 MINUTES)

I. ORGANIZATION AND SUPERVISION OF WELL CONTROL OPERATIONS (4)

A. CIRCULATE AND WEIGHT METHOD.

1145 - 1230 (45 MINUTES) LUNCH

1230 - 1700

I. WRITTEN EXAMINATION
II. AWARDING CERTIFICATES

APPENDIX D

POST EMERGENCY RESPONSE PROCEDURES

DOCUMENTATION OF RELEASES/INCIDENTS

Following the occurrence of a spill of a reportable quantity or any emergency situations described in this plan and in compliance with the GRP, ATC and other County or State requirements, a report will be prepared by the PGV Environmental Coordinator of the incident and the report will be transmitted to the appropriate individuals and agencies after review by PGV. These include the following:

Federal National Response Center
Hawaii County Civil Defense Agency
Hawaii County Planning Commission
Hawaii State Department of Health, Clean Air Branch
Hawaii State Emergency Response Commission
Hawaii State Department of Land and Natural Resources

INVESTIGATE FOLLOW UP

The Environmental Coordinator shall compile all documentation and perform a post-incident investigation. Immediate performance of this activity will aid in determining the exact circumstances and cause of the incident. Issues to be determined include:

* Cause of the incident
* Effectiveness of the emergency response procedure
* Need for amendments to the response plan
* Need for additional respondent and training programs

APPENDIX F
PENTANE SAFETY DATA SHEET

May 1, 1989

USA and WORLDWIDE

Material Safety Data Sheet

n-PENTANE (Commercial, Pure, Research and Polymerization Grades) and PENTANE(S)

Phillips 66 Company
A Subsidiary of Phillips Petroleum Company
Bartlesville, Oklahoma 74004

PHONE NUMBERS
Emergency:
Business Hours (918) 661-3865
After Hours (918) 661-8118
General MSDS Information:
(918) 661-8327

A. Product Identification

Synonyms: Normal Pentane, Pentane
Chemical Name: n-Pentane
Chemical Family: Aliphatic Hydrocarbon
Chemical Formula: C5H12
CAS Reg. No.: 109-66-0
Product No.: P05500, P05400, P05392, P05830

Product and/or Components Entered on EPA's TSCA Inventory: Yes

This product has been commercially introduced into U.S. commerce, and is listed in the Toxic Substances Control Act (TSCA) Inventory of Chemicals in Commerce; hence, it is subject to all applicable provisions and restrictions under TSCA 40 CFR, section 721 and 723.250.

B. Hazardous Components

Ingredients	CAS Number	% By Wt.	OSHA PEL	ACGIH TLV
PURE GRADE				
n-Pentane	109-66-0	99.4	600 ppm	600 ppm
Isopentane	78-78-4	0.2	NE	NE
Related Hydrocarbons	Various	0.4	NE	NE
RESEARCH GRADE				
n-Pentane	109-66-0	99.99	600 ppm	600 ppm
Isopentane	78-78-4	0.01	NE	NE
COMMERCIAL AND POLYMERIZATION GRADES, PENTANE(S)				
n-Pentane	109-66-0	98.5	600 ppm	600 ppm
Isopentane	78-78-4	0.7	NE	NE
Related Hydrocarbons	Various	0.8	NE	NE

NA - Not Applicable NE - Not Established

C. Personal Protection Information

Ventilation:	Use adequate ventilation to control exposure below recommended levels.
Respiratory Protection:	Not generally required. For concentrations exceeding the recommended exposure level, use NIOSH/MSHA approved air purifying respirator.
Eye Protection:	Use safety glasses with side shields. For splash protection use face shield and chemical goggles.
Skin Protection:	Avoid unnecessary skin contamination with material. Use gloves of Neoprene or Viton construction if liquid contact could occur.

NOTE: Personal protection information shown in Section C is based upon general information as to normal uses and conditions. Where special or unusual uses or conditions exist, it is suggested that the expert assistance of an industrial hygienist or other qualified professional be sought.

D. Handling and Storage Precautions

Do not get in eyes, on skin, or on clothing. Avoid breathing vapors. Wear protective equipment and/or garments described in Section C if exposure conditions warrant. Wash thoroughly after handling. Launder contaminated clothing before reuse.

Store in a cool, well-ventilated area away from ignition sources. Provide means for controlling leaks and spills. Bond and ground during transfer. Keep containers closed. Protect containers from physical damage.

E. Reactivity Data

Stability:	Stable
Conditions to Avoid:	Not Applicable
Incompatibility (Materials to Avoid):	Oxygen and strong oxidizing agents
Hazardous Polymerization:	Will Not Occur
Conditions to Avoid:	Not Applicable
Hazardous Decomposition Products:	Carbon oxides formed when burned.

F. Health Hazard Data

Recommended Exposure Limits:

See Section B.

Acute Effects of Overexposure:

Eye: Liquid and high vapor concentrations may be mildly irritating.

Skin: Prolonged or repeated contact with the liquid may cause defatting of the skin resulting in drying, redness, and possibly blistering.

Inhalation: Vapors may be mildly irritating to lungs and mucous membranes of the nose and throat. Overexposure may cause dizziness, headache, excitation, drowsiness, incoordination, anesthesia, unconsciousness, and respiratory arrest.

Ingestion: May cause effects described above as well as gastrointestinal irritation. May be aspirated into the lungs if swallowed resulting in pulmonary edema and chemical pneumonitis.

Subchronic and Chronic Effects of Overexposure:

If product is pressurized, contact with eyes and skin may result in freeze-burns.

Other Health Effects:

No known applicable information.

Health Hazard Categories:

	Animal	Human		Animal	Human
Known Carcinogen	___	___	Toxic	___	___
Suspect Carcinogen	___	___	Corrosive	___	___
Mutagen	___	___	Irritant	___	___
Teratogen	___	___	Target Organ Toxin	_X_	_X_
Allergic Sensitizer	___	___	Specify - Lung-Aspiration Hazard		
Highly Toxic	___	___	Skin & Eye Hazard-Freeze Burns		

First Aid and Emergency Procedures:

Eye: Flush eyes with running water for at least fifteen minutes. If irritation develops, seek medical attention.

Skin: Wash skin with soap and water. If irritation develops, seek medical attention.

Inhalation: Remove from exposure. If breathing ceases, administer artifical respiration followed by oxygen. Seek medical attention.

Ingestion: Do not induce vomiting. Seek immediate medical attention.

Note to Physician: Gastric lavage using a cuffed endotracheal tube may be performed at your discretion.

G. Physical Data

Appearance:	Colorless Liquid
Odor:	Mild, gasoline odor
Boiling Point:	97F (36C)
Vapor Pressure:	15 psia at 100F (37.8C)
Vapor Density (Air = 1):	2.48
Solubility in Water:	Negligible
Specific Gravity (H2O = 1):	0.63 at 60/60F (15.6/15.6C)
Percent Volatile by Volume:	100
Evaporation Rate (Butyl Acetate = 1):	> 1
Viscosity:	0.443 cs at 32F (0C)

H. Fire and Explosion Data

Flash Point (Method Used):	<-40F (-40C) (TCC, ASTM D56)
Flammable Limits (% by Volume in Air):	LEL - 1.5 UEL - 7.8
Fire Extinguishing Media:	Dry chemical, foam or carbon dioxide (CO2)
Special Fire Fighting Procedures:	Evacuate area of all unnecessary personnel. Wear appropriate safety equipment for fire conditions including NIOSH/MSHA self-contained breathing apparatus (SCBA). Shut off source if possible. Water fog or spray may be used to cool exposed containers and equipment. Do not spray water directly on fire - product will float and could be reignited on surface of water.
Fire and Explosion Hazards:	Carbon oxides formed when burned. Highly flammable vapors which are heavier than air may accumulate in low areas and/or spread along ground away from handling site. Flash back along vapor trail is possible.

I. Spill, Leak and Disposal Procedures

Precautions Required if Material is Released or Spilled:
Evacuate area of all unnecessary personnel. Wear protective equipment and/or garments described in Section C if exposure conditions warrant. Shut off source if possible and contain spill. Protect from ignition. Keep out of water sources and sewers. Absorb in dry, inert material. Transfer to disposal drums using non-sparking equipment.

Waste Disposal (Insure Conformity with all Applicable Disposal Regulations):
Incinerate or otherwise manage in a RCRA permitted waste management facility.

J. DOT Transportation

Shipping Name:	Pentane
Hazard Class:	Flammable Liquid
ID Number:	UN 1265
Marking:	Pentane/UN 1265
Label:	Flammable Liquid
Placard:	Flammable/1265
Hazardous Substance/RQ:	Not Applicable
Shipping Description:	Pentane, Flammable Liquid, UN 1265
Packaging References:	49 CFR 173.118 and 173.119(a)

K. RCRA Classification - Unadulterated Product as a Waste

Ignitable (D001)

L. Protection Required for Work on Contaminated Equipment

Use NIOSH/MSHA approved respiratory protection, such as air-supplied mask, in confined spaces or other poorly ventilated areas. Wear protective equipment and/or garments described in Section C if exposure conditions warrant. Contact immediate supervisor for specific instructions before work is initiated.

M. Hazard Classification

_X_ This product meets the following hazard definition(s) as defined by the Occupational Safety and Health Hazard Communication Standard (29 CFR Section 1910.1200):

___ Combustible Liquid	___ Flammable Aerosol	___ Oxidizer
___ Compressed Gas	___ Explosive	___ Pyrophoric
___ Flammable Gas	_X_ Health Hazard (Section F)	___ Unstable
_X_ Flammable Liquid	___ Organic Peroxide	___ Water Reactive
___ Flammable Solid		

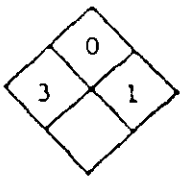
___ Based on information presently available, this product does not meet any of the hazard definitions of 29 CFR Section 1910.1200.

N. Additional Comments

As of the preparation date, this product did not contain a chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

APPENDIX G
50% CAUSTIC SODA SAFETY DATA SHEET

Hooker Industrial chemicals DIVISION



ADAPTED FROM USDL
FORM NO. LSB - 005-4

MATERIAL SAFETY DATA SHEET

NFPA Designati

CHEMICAL NAME:	PLANT CODE	MATERIAL CODE
Sodium Hydroxide, 50% Aqueous		
MANUFACTURER'S NAME: Hooker Chemical Corporation	EMERGENCY TELEPHONE NO.	
ADDRESS: (NUMBER, STREET, CITY, STATE AND ZIP CODE)		

CHEMICAL NAME AND SYNONYMS	TRADE NAME
Sodium Hydroxide	[redacted]

CHEMICAL FORMULA	MOL. WT.	USES
NaOH	40.01	Mfg of Chemicals, soap, textiles, paper, et

Physical Properties

BOILING POINT (°F) @ 760 mm Hg	293	SPECIFIC GRAVITY (H_2O=1) 60°F/60°F	1.541
VAPOR PRESSURE (mmHg) @ 100°F	3	PERCENT VOLATILE BY VOLUME (%)	
VAPOR DENSITY (AIR=1)		EVAPORATION RATE (=1)	
SOLUBILITY IN WATER	Infinite		

APPEARANCE AND ODOR Clear, water-white to slightly gray and turbid, odorless solution.

Fire and Explosion Hazard Data

FLASH POINT	METHOD	FLAMMABLE LIMITS	AUTOIGNITION TEMP.
none °F		UEL -- LEL --	none °F

EXTINGUISHING MEDIA Not combustible.

SPECIAL FIRE FIGHTING PROCEDURES Suitable for surrounding fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS Cool tank with water to avoid corrosive attack or possible rupture of tank.

Reactivity

INCOMPATIBILITY Reacts vigorously with: (1) strong acids; (2) aluminum, tin, zinc - liberating hydrogen; (3) trichlorethylene - forming spontaneously flammable dichloroacetylene; (4) phosphorus - forming spontaneously flammable phosphine.

HAZARDOUS DECOMPOSITION PRODUCTS --

CONDITIONS TO AVOID Overheating in storage accelerates corrosion. Store separately fro materials which can react violently with caustic; especially acids, chlorocarbons, nitro paraffins, phosphorus. When diluting, use agitation and add concentrated caust at controlled rate to control heat of dilution and avoid spattering.

Health Related Data

THRESHOLD LIMIT VALUE 2 milligrams per cubic meter of air.

EFFECTS OF OVEREXPOSURE (SKIN, EYE, INHALATION, ETC.) Contact with concentrated solutions can cause severe burns and destruction of all tissues, especially skin and eyes. Ingestion damages mucous membranes and tissues of the gastro-intestinal tract. Inhalation of mist, depending upon severity of exposure, can produce symptoms ranging from mild irritation of the nasal mucous membranes to severe pneumonitis. Dilute solutions may cause burns which are not immediately evident.

EMERGENCY AND FIRST AID PROCEDURES Flush thoroughly with large quantities of water. Speed and thoroughness of treatment are critical for eye exposures. Get medical assistance for all eye exposures and any other severe exposures. In case of ingestion, dilute by drinking large quantities of milk or water; vomiting may occur but should not be induced.

SPECIAL MEDICAL PROCEDURES Do not apply oils or ointments unless ordered by the physician. In case of ingestion, after dilution, fruit juice or diluted vinegar may be administered to accomplish neutralization.

Special Protection Information

VENTILATION Not usually required for caustic solutions.

RESPIRATORY (TYPE) Mist protection where applicable.

GLOVES (TYPE) Rubber, neoprene or vinyl.

EYE (TYPE) Chemical goggles and face shield where appropriate.

OTHER Rubber or neoprene suits, rubber shoes or boots, hard hat with brim.

SPECIAL PRECAUTIONS FOR HANDLING AND STORAGE Wear protective equipment; tanks should be vented and diked; drum storage areas should have adequate drainage.

STEPS TO TAKE IN EVENT OF SPILL OR RELEASE If possible, contain spill; if not, dilute and flush with water. Following flushing, neutralize with dilute acid, preferably acetic. In some locations a liberal covering of sodium bicarbonate may be used instead.

WASTE DISPOSAL Dilute and neutralize in a retention facility before discharging to a sewer or stream.

REMARKS

REFERENCES MCA Chemical Safety Data Sheet SD-9: Caustic Soda (1968).
Sax, N I, - Dangerous Properties of Industrial Materials, 3rd Edition, (1968).

NAME G W Darling
LOC. Niagara - ICD
DATE January 1972

Cleaner, Hydro-Prep

P.S.D. Nos. 3-97091 & 3-97092

Essentially similar to OSHA-20

50% Caustic Soda

MATERIAL SAFETY DATA SHEET

F 1630

SECTION I

MANUFACTURER'S NAME: Dist. by Master-Fit	EMERGENCY TELEPHONE NO.: (312) 496-2500
ADDRESS (Number, Street, City, State, and ZIP Code): 7250 So. Cicero Ave. Chicago, IL 60629	HYDRO-PREP (Base Ingredient) ~~Caustic Sod~~
CHEMICAL NAME AND SYNONYMS: Sodium Hydroxide	TRADE NAME AND SYNONYMS: Caustic Soda - 50% Liquor
CHEMICAL FAMILY: Inorganic Alkali	FORMULA: NaOH , Seqlene 270, H_2O

SECTION II HAZARDOUS INGREDIENTS

PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
NaOH				50	2 mg/m

SECTION III PHYSICAL DATA

BOILING POINT (°F.)	260-298	SPECIFIC GRAVITY (H_2O = 1)	1.53
VAPOR PRESSURE (mm Hg.) at 100°F.	3	PERCENT VOLATILE BY VOLUME (%)	-
VAPOR DENSITY (AIR = 1)	-	VAPORATION RATE (= 1)	-
SOLUBILITY IN WATER	infinite		

APPEARANCE AND ODOR: Dark Brown Liquid, Penetrating coffee like odor

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used): None	FLAMMABLE LIMITS: None	Lel	Uel

EXTINGUISHING MEDIA

SPECIAL FIRE FIGHTING PROCEDURES: None

UNUSUAL FIRE AND EXPLOSION HAZARDS

SECTION V - HEALTH HAZARD DATA

Threshold Limit Value

Effects of Overexposure: Irritation or acid burn to skin and/or eyes - may involve irreversible and reversible changes not severe enough to cause death or permanent injury.

Emergency and First Aid Procedures: In case of contact, flush skin or eyes with plenty of water for at least 15 minutes; for eyes, get medical attention.

SECTION VI - REACTIVITY DATA

Stability	Unstable		Conditions to Avoid: Reaction with non-acid resitant metals which liberate H_2
	Stable	X	

Incompatibility (Materials to avoid): Aluminum and zinc & Alkaline materials

Hazardous Decomposition Products

Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	

SECTION VII - SPILL OR LEAK PROCEDURES

Steps to be Taken in Case Material is Released or Spilled: May be handled by flushing with plenty of water.

Waste Disposal Method: Flush down drains with plenty of water.

SECTION VIII - SPECIAL PROTECTION INFORMATION

Respiratory Protection (Specify type)

Ventilation: No	Local Exhaust		Special
	Mechanical (General)		Other: GENERAL ROOM VENTILATION IS SATISFACTORY.

Protective Gloves: Neoprene or Rubber | Eye Protection: Chemical Safety Goggles

Other Protective Equipment

SECTION IX - SPECIAL PRECAUTIONS

Precautions to be Taken in Handling and Storing: Store material away from heat and out of direct sunlight. Use acid resistant equipment.

Other Precautions

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE	2 mg/m^3 (as mist)
EFFECTS OF OVEREXPOSURE	SEE ATTACHED SHEET.
EMERGENCY AND FIRST AID PROCEDURES	SEE ATTACHED SHEET.

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	

INCOMPATABILITY (Materials to avoid): Any acids and many organic chemicals.

HAZARDOUS DECOMPOSITION PRODUCTS:

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR		

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Neutralize with acid and flush area with water spray.

WASTE DISPOSAL METHOD:

Depends on Federal, State and local regulations. See above.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type): Filter or dust type for protection against caustic soda mist.

VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL (General)	OTHER

PROTECTIVE GLOVES: Rubber gloves	EYE PROTECTION: Goggles or face shield.

OTHER PROTECTIVE EQUIPMENT:

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

Avoid contact with skin and eyes. Avoid breathing mists or sprays.

OTHER PRECAUTIONS:

Caustic soda, as a solid or solution, makes a floor slippery.

ATTACHMENT FOR CAUSTIC SODA MATERIAL SAFETY DATA SHEETS

DANGER: Caustic Soda causes severe burns. May be fatal if swallowed. Harmful if inhaled.

Do not get in eyes, on skin, on clothing. Avoid breathing dust or mist. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

PRECAUTION: When handling, wear goggles or face shield. When making solutions, use cold water and add caustic soda slowly in small amounts to surface of solution with continuous agitation to avoid spattering.

Skull & CB — POISON — Skull & CB

CALL A PHYSICIAN

FIRST AID: In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes, while removing contaminated clothing and shoes. Wash clothing before re-use, discard contaminated shoes.

If swallowed, dilute by drinking large quantities of water or milk. Following this, vinegar, 5% Acetic Acid, cider or fruit juice may be given to accomplish neutralization. DO NOT induce vomiting.

Exception: Never give anything by mouth to a victim unconscious or having convulsions.

If inhaled, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen.

APPENDIX E
EQUIPMENT AND SERVICE CONTRACTORS

CRANES AND TRUCKS

Yamada Trucking	Office
Andrew Chong	933-8400
	933-8422
Richard Chong	933-8420
Richard Chong	959-8537 (Home)

Industrial Crane	Office
Wesley Duarte	966-9725
Wesley Duarte	966-8868 (Home)

CAUSTIC REMOVAL

HT & T	
Kai Torngren	961-4560
Eddie Macomber	961-4555
Kai Torngren	935-3301 (Home)

PROPANE REMOVAL

Gasco	Office
Lyle Hirota	935-0021
Melvin Kuwimoto	
Curtis Deck	

WELDERS/CUTTERS

Arakaki Mechanical	Office
Derrick Arakaki	966-7461
Derrick Arakaki	935-0276 (Home)

WELL CONTROL SPECIALISTS	Office
Cudd Pressure Control	512-387-8521
Boots and Coots	713-931-8884
Hiller Pressure and Blowout Control	405-670-1428
Red Adair	713-464-0236
Wild Well Control	713-353-5481
Otis Engineering	713-993-0773
GSM	806-358-6894

APPENDIX H
HAZARD ANALYSIS OF THE POSSIBLE WELL-RELATED UNCONTROLLED FLOW EVENT SCENARIOS

HAZARD ANALYSIS OF THE POSSIBLE WELL-RELATED UNCONTROLLED FLOW EVENT AND POWER PLANT UPSET EMISSION SCENARIOS PUNA GEOTHERMAL VENTURE PROJECT

To determine the "worst case" conditions under which geothermal fluid emissions could occur during an uncontrolled flow event at any wellpad, or during specified power plant upset conditions, Puna Geothermal Venture (PGV) conducted a simplified hazard analysis of the possible well-related uncontrolled flow event and power plant upset scenarios to determine the range of credible situations under which hydrogen sulfide and other contaminants could be released from any well or the power plant. Table 1 provides a summary of the twelve (12) scenarios determined by PGV, in consultation with the Hawaii Department of Health and its consultants, to be credible events.

Table 2 lists the parameters of the geothermal resource (geochemistry [hydrogen sulfide and other chemical constituents], likely maximum credible productivity [flow rate], temperature [enthalpy], etc.) which were determined by PGV, in consultation with the Hawaii Department of Health and its consultants, to be the emitted (released) constituents for the hazard analysis.

In order to determine the maximum ("worst case") impacts which could result from each of these 12 different emission scenarios, PGV conducted an impact analysis utilizing the Industrial Source Complex Short Term (ISCST) model. The ISCST model is a steady-state Gaussian model used to assess pollutant concentrations from a wide variety of sources associated with an industrial source complex which can be used for a wide variety of applications, from initial screening to refined determinations of maximum concentrations. Its use is appropriate here because it is the most popular EPA guideline model, making it readily accessible to most modelers. The emissions to be modeled are assumed to be steady state, or the emissions are scaled to the one-hour modelling period, and one-hour concentrations are calculated. The emitted steam and gas plume is not heavier than air, eliminating the need for dense gas models. ISCST can be used in the screen mode to evaluate impacts over a wide range of atmospheric stability and wind speeds.

Because the ultimate product of the air modeling was to evaluate the "worst-case" results of many different release scenarios, each scenario was modeled as a single source with the ISCST model in the flat terrain mode. In order to ensure that the analysis would be very conservative, in consultation with the Hawaii Department of Health and its consultants, PGV modeled receptors placed both at the same height as the source and at "flagpole" heights of 10 meters. A narrow (100 meter wide) two-dimensional generated Cartesian receptor grid (1,000 meter spacing from 1,000 to 25,000 meters) with discrete receptors located at 50 and 100 through 900 meters (at 100 meter intervals) was used, which provided sufficient detail without overburdening the analysis. To err again on the conservative side, building downwash calculations were modeled for those source(s) which could be located within the zone of influence of the power plant turbine and air cooler pads.

Because the air modeling is conducted to select the "worst-case" results of each of the different release scenarios under a wide variety of meteorological conditions, the ISCST model was used in the "screen" mode. This mode calculates "worst-case" ambient air concentrations for each of the 33 different wind-speed/stability classes used by the SCREEN model (see Table 3 for a listing of each of the SCREEN combinations) for each of the

designated receptor points. The mixing height was changed from the default value to 300 meters (stability classes A, B, C, and D) or 100 meters (stability classes E and F), and ambient temperatures scaled, to conform to the requests of the Hawaii Department of Health and its consultants, to ensure "worst-case" values.

Appropriate emission rates and other necessary air modeling parameters (temperature, flow rate, stack diameter, etc.) for the hydrogen sulfide emissions for each of the potentially credible release scenarios were established by PGV in consultation with the Hawaii Department of Health and it consultants, and are presented in Table 4. Emission parameters for the non-hydrogen sulfide noncondensible gas constituents of the geothermal fluid are identical to those for the hydrogen sulfide. Emission characteristics for the brine portion of the geothermal fluid are also identical to those for hydrogen sulfide, except that many of the emission mechanisms substantially reduce the emission of geothermal brine into the atmosphere over the hydrogen sulfide (and other noncondensible gases), and only a portion of the brine emitted into the atmosphere is converted into atmospheric aerosols. As a result, an additional reduction in the emission rate of the brine components over the hydrogen sulfide is appropriate. These reduction values are presented in Table 5.

Once the emission parameters, receptor locations and meteorological conditions were selected, the ISCST model was then run for each of the credible release scenarios to determine the highest modeled atmospheric concentration of hydrogen sulfide at each receptor point under any of the modeled meteorological conditions and receptor elevations. The output of this air dispersion modeling is presented in Attachment 2, and the maximum modeled concentrations for each scenario are graphically displayed in Atachment 3, Maps H-1 through H-12. Table 6 summarizes the results of the modeling for each of the 12 release scenarios, organized on the basis of the maximum distance at which each of the HDOH-specified threshold levels are predicted to be exceeded under the "worst case" meteorological conditions/receptor elevations and the point and concentration of maximum impact. Table 6 has further categorized each release scenario by which, if any, of the HDOH-specified threshold levels is predicted to be exceeded by the maximum predicted concentration, thus ensuring that each release scenario is categorized by the highest impact it can create.

Based on the ratio of the "emission rates" for hydrogen sulfide and each of the other noncondensible gas species which was determined in Attachment 1 as likely to result from the emission (release) of the geothermal fluid into the atmosphere, and the modeled ambient hydrogen sulfide concentrations at each receptor point for each of the scenarios as presented in Attachment 2, the "worst case" ambient concentrations of each of these noncondensible gas species can be estimated. These values are presented in Table 7. By ratioing these values further as appropriate by the reduced brine emission rates presented in Table 5, the maximum predicted concentrations of each of the brine aerosol species can be calculated. These maximum predicted concentrations for each of the brine aerosol species are listed in Table 8.

HAZARD ANALYSIS OF THE POSSIBLE WELL-RELATED UNCONTROLLED FLOW EVENT AND POWER PLANT UPSET EMISSION SCENARIOS
PUNA GEOTHERMAL VENTURE PROJECT
(page 3)

TABLE 1
WELL-RELATED UNCONTROLLED FLOW EVENT AND POWER PLANT UPSET EMISSION SCENARIOS

1.	Abated ***vertical*** flow through the well 13-3/8" flow line and muffler (assumes that the new well control and abatement system works as designed to divert and abate any uncontrolled flow).
2.	Unabated ***vertical*** flow through the well 13-3/8" flow line and muffler (assumes that the abatement system does not operate).
3.	Unabated ***horizontal*** flow through the well 13-3/8" flow line (assumes that the flow through the flow line knocks the muffler off the end of the flow line and the abatement equipment is not operated. This scenario can be quickly controlled through closing valves to shut in the well).
4.	Unabated ***vertical*** flow through the well 13-3/8" casing (assumes that the rupture disk on the flow line does not rupture and the flow continues up the 13-3/8" casing through the BOPE stack).
5.	Unabated ***vertical*** flow through the well 9-5/8" casing (assumes that the well is unable to be shut-in at the surface after the 9-5/8" casing is set, or the vertical line is ruptured after the rig is removed from the well).
6.	Unabated ***vertical*** well flow channeled by the rig subbase (assumes that the rupture disk on the flow line does not rupture and the flow blows off the annular preventer and the vertical flow is channeled by the drill rig structure [this is essentially what happened during the first few hours of the KS-8 uncontrolled flow event]).
7.	Unabated ***vertical*** well flow through an area of fractured rock surrounding the well (assumes that the uncontrolled flow is not coming through the casing of the well but through an area of fractured rock surrounding the well casing).
8.	Abated ***vertical*** flow from the well drilling rig mud tanks (assumes that the choke line is used to divert the geothermal fluid to the mud tanks. Abatement is through NaOH injected into the choke line and lime in the mud tanks).
9.	Abated ***vertical*** flow from the well drilling rig mud sump (assumes that the choke line is used to divert the geothermal fluid to the mud sump. Abatement is through NaOH injected into the choke line and lime in the mud sump).
10.	Unabated ***horizontal*** flow through the well drilling rig 4" choke line (assumes that the choke line is used to divert the geothermal fluid, but the fluid flow knocks the "tee" off of the end of the choke line, at which point the hydrogen sulfide is unabated. This scenario can be controlled through closing valves to divert the geothermal fluid to the flow diverter or shut in the well).
11.	Unabated ***horizontal*** "puff" flow through 3" noncondensible gas flow line from noncondensible gas compressor to fluid injection line (assumes that the line is ruptured and the contents of the pipeline (4.9 pounds of hydrogen sulfide) is emitted to the air).
12.	Unabated ***vertical*** flow through the power plant steam release facility (assumes that the emergency steam release facility abatement system does not operate when needed).

TABLE 2
EMITTED GEOTHERMAL RESOURCE CHARACTERISTICS
ASSUMED FOR THE PGV PROJECT EMERGENCY RESPONSE PLAN

PARAMETERS	VALUE	COMMENT
MAXIMUM SINGLE WELL MASS FLOW	500,000 lbs/hr	Estimated maximum credible flow of geothermal fluid from a single well.
STEAM FLASH	80 percent	Based on enthalpy of KS-8 and flashing steam at atmospheric pressures.
HYDROGEN SULFIDE IN GEOTHERMAL FLUID	896 ppm	Based on assumed hydrogen sulfide concentration in steam (from below) calculated back to reservoir conditions by adding back in the 20% brine not flashed to steam.
HYDROGEN SULFIDE IN FLASHED STEAM	1,120 ppm	Calculated based upon average hydrogen sulfide measurements from KS-1A, KS-3, and HGP-A (834 ppmv) plus one standard deviation (286 ppmv) of all measurements.
BRINE AEROSOL SPECIES CONCENTRATIONS	See Attachment 1	
VAPOR PHASE INITIAL SPECIES CONCENTRATIONS	See Attachment 1	

TABLE 3
33 WIND SPEED/STABILITY COMBINATIONS ANALYZED BY SCREEN AND USED FOR THE PGV PROJECT EMERGENCY RESPONSE PLAN

10 Meter Wind Speed (m/s)	Stability Class					
	A	B	C	D	E	F
1.0	1	4	9	16	25	30
2.0	2	5	10	17	26	31
3.0	3	6	11	18	27	32
4.0		7	12	19	28	33
5.0		8	13	20	29	
8.0			14	21		
10.0			15	22		
15.0				23		
20.0				24		

TABLE 4
EMISSION CHARACTERISTICS FOR WELL-RELATED UNCONTROLLED FLOW EVENT AND POWER PLANT UPSET SCENARIOS FOR THE PGV EMERGENCY RESPONSE PLAN

SCENARIO	Source Type	Stack or Effective Height	Inside Diameter or Sigma y (feet)	Emission Velocity (ft/min) *OR*	*OR* Volumetric Flow Rate (ACFM)	Temperature of Effluent (F) or Sigma z (feet)	Abatement Efficiency (%)	Abated Emission Rate (lb/hr)
1. Abated ***vertical*** flow through the well 13-3/8" flow line and muffler	Stack	20[1]	15[2]		182,000[3]	211[4]	90[5]	44.8[6]
2. Unabated ***vertical*** flow through the well 13-3/8" flow line and muffler	Stack	20	15		182,000	211	0	448
3. Unabated ***horizontal*** flow through the well 13-3/8" flow line only	Volume x5[7]	65[8]	58.1[9]			30.2[10]	0	448[11]

[1]Based upon current design of muffler.

[2]Based upon current design of muffler.

[3]500,000 lb/hr x 80% steam flash = 400,000 lb/hr x 27.3 cu.ft/lb / 60 min/hr = 182,000 ACFM.

[4]Temperature of geothermal fluid at point of release after flashing.

[5]Abatement efficiency conservatively estimated from the literature.

[6]Assumes 400,000 lb/hr geothermal steam x 1,120 ppm hydrogen sulfide x 90% abatement.

[7]Assumes that the source is a line source, which is modeled as five volume sources, each with initial height of 65 ft and initial width of 125 ft. The center of each volume source along the line is assumed to be 62.5 ft, 312.5 ft, 562.5 ft, 812.5 ft, and 1,062.5 ft. Initial strength of each volume source is proportional to its distance from the origin; the first source is 29.9 lb/hr; the second 59.7 lb/hr; the third 89.6 lb/hr; the fourth 119.5 lb/hr; and the fifth 149.3 lb/hr, for a total emission rate of 448 lb/hr.

[8]The effective emission height of each volume source is set to the height of the volume.

TABLE 4
EMISSION CHARACTERISTICS FOR WELL-RELATED UNCONTROLLED FLOW EVENT AND POWER PLANT UPSET SCENARIOS FOR THE PGV EMERGENCY RESPONSE PLAN

SCENARIO	Source Type	Stack or Effective Height	Inside Diameter or Sigma y (feet)	Emission Velocity (ft/min) *OR*	*OR* Volumetric Flow Rate (ACFM)	Temperature of Effluent (F) or Sigma z (feet)	Abatement Efficiency (%)	Abated Emission Rate (lb/hr)
4. Unabated ***vertical*** flow through the well 13-3/8" casing	Stack	71[12]	75[13]	41	182,000	211[14]	0	448
5. Unabated ***vertical*** flow through the well 9-5/8" casing	Stack	71	75	41	182,000	211	0	448
6. Unabated ***vertical*** flow channeled by the rig subbase	Stack	40[15]	80[16]		182,000[17]	211	0	448

[9]Initial Sigma y for each volume source is calculated as the initial width (125 ft) divided by 2.15.

[10]Initial Sigma z for each volume source is calculated by dividing the initial vertical dimension of the source (65 feet) by 2.15.

[11]The initial strength of each volume source is proportional to its distance from the origin; the first source is 29.9 lb/hr; the second 59.7 lb/hr; the third 89.6 lb/hr; the fourth 119.5 lb/hr; and the fifth 149.3 lb/hr, for a total emission rate of 448 lb/hr. Note, however, that this scenario can be quickly controlled through closing valves to shut in the well, resulting in a significantly reduced emission rate over any one-hour period.

[12]The effective stack height (71 ft) is calculated by adding the assumed actual height of the stack (6 ft) to the calculated height (65 ft) at which the sonic cone has reached its maximum spread.

[13]Calculated effective stack diameter of release based upon sonic flow at release point (6 ft), resulting in expansion of the sonic cone at a 60° angle up to a additional height of 65 ft, which results in an effective diameter of 75 ft.

[14]Temperature of geothermal fluid at effective point of release after flashing.

TABLE 4
EMISSION CHARACTERISTICS FOR WELL-RELATED UNCONTROLLED FLOW EVENT AND POWER PLANT UPSET SCENARIOS FOR THE PGV EMERGENCY RESPONSE PLAN

SCENARIO	Source Type	Stack or Effective Height	Inside Diameter or Sigma y (feet)	Emission Velocity (ft/min) *OR*	*OR* Volumetric Flow Rate (ACFM)	Temperature of Effluent (F) or Sigma z (feet)	Abatement Efficiency (%)	Abated Emission Rate (lb/hr)
7. Unabated ***vertical*** flow through an area of fractured rock surrounding the well	Stack	0	50[18]		182,000	211	0	448
8. Abated ***vertical*** flow from the well drilling rig mud tanks	Stack	6[19]	25.5[20]	3.28[21]	-[22]	160[23]	99[24]	4.5

[15]Assumes that the soundproofing around rig floor railing, which tops out at about 40' above ground level, channels most of the steam flow.

[16]Because the rig floor was blown out during the KS-8 uncontrolled flow event, this scenario assumes that the effective diameter is equal to the observed diameter of the plume during the KS-8 uncontrolled flow event (80 ft diameter).

[17]Assumes total steam flow of 400,000 lb/hr is exiting through area of effective diameter.

[18]Reasonable but arbitrary assumption for a steam release through fractured rock. Assumes total area of rock fractures releasing steam and hydrogen sulfide equals approximately 2,000 square feet.

[19]Height of mud tanks above ground surface.

[20]Assumes mud tank surface area is approximately 650 sq.ft.

[21]Assumes a very low (1 meter per minute) vertical velocity.

[22]Assumes that a 4-inch diameter choke line limits steam and brine flow to only 50% of the unlimited flow rate.

[23]Assumes that the temperature of the mud is limiting the temperature of the discharge.

TABLE 4
EMISSION CHARACTERISTICS FOR WELL-RELATED UNCONTROLLED FLOW EVENT AND POWER PLANT UPSET SCENARIOS FOR THE PGV EMERGENCY RESPONSE PLAN

SCENARIO	Source Type	Stack or Effective Height	Inside Diameter or Sigma y (feet)	Emission Velocity (ft/min) *OR*	*OR* Volumetric Flow Rate (ACFM)	Temperature of Effluent (F) or Sigma z (feet)	Abatement Efficiency (%)	Abated Emission Rate (lb/hr)
9. Abated ***vertical*** flow from the well drilling rig mud sump	Stack	0	70.7[25]	3.28[26]	-[27]	160	99	4.5
10. Unabated ***horizontal*** flow through the well drilling rig 4" choke line	Volume x5[28]	65[29]	58.1[30]			30.2[31]	50[32]	224[33]

[24]High abatement percentage assumes discharge is abated through limitations in flow through the small-diameter choke line (50%); abatement by chemical injection in the choke-line (96%), and discharge into the mud tanks under the level of the mud in the tanks (50%).

[25]Assumes a 50' x 100' mud sump.

[26]Assumes a very low (1 meter per minute) vertical velocity.

[27]Assumes that a 4-inch diameter choke line limits steam and brine flow to only 50% of the unlimited flow rate.

[28]Assumes that the source is a line source, which is modeled as five volume sources, each with initial height of 65 ft and initial width of 125 ft. The center of each volume source along the line is assumed to be 62.5 ft, 312.5 ft, 562.5 ft, 812.5 ft, and 1,062.5 ft. Initial strength of each volume source is proportional to its distance from the origin.

[29]The effective emission height of each volume source is set to the height of the volume.

[30]Initial Sigma y for each volume source is calculated as the initial width (125 ft) divided by 2.15.

[31]Initial Sigma z for each volume source is calculated by dividing the initial vertical dimension of the source (65 feet) by 2.15.

[32]Abatement is assumed to be 50% as total flow of geothermal fluid is restricted through choke line to only 50% (250,000 lb/hr).

TABLE 4
EMISSION CHARACTERISTICS FOR WELL-RELATED UNCONTROLLED FLOW EVENT AND POWER PLANT UPSET SCENARIOS FOR THE PGV EMERGENCY RESPONSE PLAN

SCENARIO	Source Type	Stack or Effective Height	Inside Diameter or Sigma y (feet)	Emission Velocity (ft/min) *OR*	*OR* Volumetric Flow Rate (ACFM)	Temperature of Effluent (F) or Sigma z (feet)	Abatement Efficiency (%)	Abated Emission Rate - (lb/hr)
11. Unabated *horizontal* "puff" of noncondensible gases through 3" line[34]	Stack	0[35]	3.28[36]	0.00[37]		150[38]	0	4.9[39]

[32]Abatement is assumed to be 50% as total flow of geothermal fluid is restricted through choke line to only 50% (250,000 lb/hr).

[33]The initial strength of each volume source is proportional to its distance from the origin; the first source is 14.9 lb/hr; the second 29.9 lb/hr; the third 44.8 lb/hr; the fourth 59.7 lb/hr; and the fifth 74.7 lb/hr, for a total emission rate of 224 lb/hr. Note, however, that this scenario can be quickly controlled through closing valves to divert the flow to the flow diverter or to shut in the well, resulting in a significantly reduced emission rate over any one hour period.

[34]This scenario results in the emission of only that noncondensible gas contained in the line (4.9 pounds) at the time of the pipe rupture (which is an extremely remote possibility. If the pipeline ruptured, the system would bypass the compressor and attempt to inject the noncondensible gases into the fluid injection line through an independent line. If the noncondensible gas injection system became completely inoperable for whatever reason, the power plant would go off-line and the geothermal steam and noncondensible gases would be released (and abated) through the power plant steam release facility, or through the well pad rock mufflers, or the wells would be shut in.

[35]Assumes a ground-level release.

[36]Assumes a small diameter stack release.

[37]Uses the extremely conservative assumption that the emission occurs with no vertical velocity.

[38]Operating temperature for the line.

TABLE 4
EMISSION CHARACTERISTICS FOR WELL-RELATED UNCONTROLLED FLOW EVENT AND POWER PLANT UPSET SCENARIOS FOR THE PGV EMERGENCY RESPONSE PLAN

SCENARIO	Source Type	Stack or Effective Height	Inside Diameter or Sigma y (feet)	Emission Velocity (ft/min) *OR*	*OR* Volumetric Flow Rate (ACFM)	Temperature of Effluent (F) or Sigma z (feet)	Abatement Efficiency (%)	Abated Emission Rate (lb/hr)
12. Unabated ***vertical*** flow through power plant steam release facility	Stack	20[40]	15[41]		500,000[42]	211[43]	0	560[44]

[39]The quantity of hydrogen sulfide contained in the pipeline at any given time.

[40]Stack height as built is 20 feet.

[41]Diameter of the steam release facility as designed and constructed is 15 feet.

[42]Total flow of steam through the power plant.

[43]Temperature of the steam at release.

[44]Assumes 500,000 lb/hr geothermal steam x 1,120 ppm hydrogen sulfide.

TABLE 5
ABATEMENT ESTIMATES FOR EMITTED NON-HYDROGEN SULFIDE PRODUCTS FOR WELL UNCONTROLLED FLOW EVENT AND POWER PLANT UPSET EMISSION SCENARIOS FOR THE PGV EMERGENCY RESPONSE PLAN

SCENARIO	Total Mass Flow (lb/hr)	Brine Droplet Abatement Percentage	Aerosol Production Percentage	Noncondensible Gas Abatement Percentage
1. Abated ***vertical*** flow through the well 13-3/8" flow line and muffler	500,000[1]	80[2]	50[3]	0[4]
2. Unabated ***vertical*** flow through the well 13-3/8" flow line and muffler	500,000	80	50	0
3. Unabated ***horizontal*** flow through the well 13-3/8" flow line	500,000	0	50	0
4. Unabated ***vertical*** flow through the well 13-3/8" casing	500,000	0	50	0
5. Unabated ***vertical*** flow through the well 9-5/8" casing	500,000	0	50	0
6. Unabated ***vertical*** flow channeled by the rig subbase	500,000	20[5]	50	0
7. Unabated ***vertical*** flow through an area of fractured rock surrounding the well	500,000	50[6]	50	0

[1]Total flow of geothermal fluid; brine, steam, steam condensate and noncondensible gases.

[2]Estimated abatement percentage for brine droplets due to mechanics of the emission process. Assumption that cyclonic muffler abates 80 percent of the brine droplets.

[3]General assumption is that only 50 percent of the emitted brine droplets produce aerosols.

[4]Percentage of noncondensible gases in the geothermal fluid which are abated before emission to the atmosphere.

[5]Assumes the rig substructure and floor abates 20 percent of the brine droplets.

[6]Assumption that 50 percent of the brine is abated for small-diameter release.

TABLE 5
ABATEMENT ESTIMATES FOR EMITTED NON-HYDROGEN SULFIDE PRODUCTS FOR WELL UNCONTROLLED FLOW EVENT AND POWER PLANT UPSET EMISSION SCENARIOS FOR THE PGV EMERGENCY RESPONSE PLAN

SCENARIO	Total Mass Flow (lb/hr)	Brine Droplet Abatement Percentage	Aerosol Production Percentage	Noncondensible Gas Abatement Percentage
8. Abated ***vertical*** flow from the well drilling rig mud tanks	250,000[7]	90[8]	50	0
9. Abated ***vertical*** flow from the well drilling rig mud sump	250,000	90[9]	50	0
10. Unabated ***horizontal*** flow through the well drilling rig 4" choke line	250,000	0	50	0
11. Unabated ***horizontal*** "puff" of noncondensible gases through 3" line	8.77[10]	100[11]	N/A	0
12. Unabated ***vertical*** flow through power plant steam release facility	500,000	100[12]	N/A	0

[7]Total flow is limited by the small diameter (4") of the choke line.

[8]Assumes that flow through the mud tank abates 90 percent of the brine droplets.

[9]Assumes that flow through the mud sump abates 90 percent of the brine droplets.

[10]Noncondensible gas line from compressor to injection line contains approximately 8.77 pounds of noncondensible gasses, including approximately 4.9 pounds of hydrogen sulfide.

[11]Contents of pipeline is noncondensible gases only.

[12]Discharge will be of steam and noncondensible gases only.

TABLE 6: SUMMARY OF MODELLED HYDROGEN SULFIDE IMPACTS				
RELEASE SCENARIO	MAXIMUM OFF-SITE (>0.3 km) DISTANCE FROM SOURCE (km) TO IDENTIFIED ACTION LEVEL		POINT OF MAXIMUM PREDICTED OFF-SITE IMPACT (>0.3 km)	
	"WATCH" LEVEL (25 ppb)	"WARNING" LEVEL (1,000 ppb)	CONCENTRATION (ppb)	DISTANCE FROM SOURCE (km)
TYPE "1" EVENTS [EXCEED ONLY THE "WATCH" ACTION LEVEL]				
1. Abated vertical flow through diverter/muffler	0.9 km	N/A	40.3	0.4
9. Abated vertical flow from the mud sump	2.8 km	N/A	57.1	0.4
8. Abated vertical flow from the mud tanks	4.5 km	N/A	253.1	0.4
11. Unabated noncondensible gas flow	5.5 km	N/A	935.7	0.4
4. Unabated vertical flow through 13-3/8" casing	25.+ km	N/A	146.0	0.6
5. Unabated vertical flow through 9-5/8" casing	25.+ km	N/A	146.0	0.6
12. Unabated vertical flow through power plant steam release facility	25.+ km	N/A	150.6	0.8
6. Unabated vertical flow through drill rig subbase	25.+ km	N/A	246.8	0.5
2. Unabated vertical flow through diverter/muffler	25.+ km	N/A	403.4	0.4
7. Unabated vertical flow through area of fractured rock	25.+ km	N/A	789.4	0.4
TYPE "2" EVENTS [EXCEED THE "WATCH" AND "WARNING" ACTION LEVELS]				
10. Unabated horizontal flow through a 4" choke line	25.+ km	3.7 km	6,395[1]	0.4
3. Unabated horizontal flow through diverter	25.+ km	6.7 km	12,786[2]	0.4

[1]Note that this scenario can and will be quickly controlled through closing valves to shut in the well, resulting in a significantly reduced emission rate over any one hour period.

[2]Note that this scenario can and will be quickly controlled through closing valves to shut in the well, resulting in a significantly reduced emission rate over any one hour period.

TABLE 7: SUMMARY OF MODELED GEOTHERMAL VAPOR PHASE EMISSION IMPACTS

RELEASE SCENARIO	POINT OF MAXIMUM PREDICTED OFF-SITE IMPACT (>0.3 km)												
	CONCENTRATION (µg/m3) (Rn-222 = aCi/m3 [pCi/m3/1,000,000)												DISTANCE FROM SOURCE (km)
	HAsO2	NH3	CH4	C2H4	C2H6	C3H6	C3H8	C4H10	C4H10	C5H12	C5H12	HCl	Rn-222	
1. Abated vertical flow through diverter/muffler	0.0045	0.690	8.49	0.0023	0.045	0.041	0.036	0.0131	0.0198	0.0063	0.0068	8.07	0.0635	0.4
9. Abated vertical flow from the mud sump	0.0635	9.732	119.75	0.0318	0.635	0.583	0.507	0.1847	0.2794	0.0888	0.0953	113.89	0.8954	0.4
8. Abated vertical flow from the mud tanks	0.2814	43.127	530.68	0.1407	2.814	2.585	2.248	0.8183	1.2382	0.3937	0.4221	504.69	3.9677	0.4
11. Unabated noncondensible gas flow	0.9576	*00.00	1,805.91	0.4788	9.576	8.796	7.650	2.7847	4.2134	1.3397	1.4364	*000.00	13.5022	0.4
4. Unabated vertical flow through 13-3/8" casing	0.0016	0.245	3.02	0.0008	0.016	0.015	0.013	0.0047	0.0070	0.0022	0.0024	2.87	0.0226	0.6
5. Unabated vertical flow through 9-5/8" casing	0.0016	0.245	3.02	0.0008	0.016	0.015	0.013	0.0047	0.0070	0.0022	0.0024	2.87	0.0226	0.6
12. Unabated vertical flow through power plant steam release facility	0.0017	0.261	3.21	0.0009	0.017	0.016	0.014	0.0049	0.0075	0.0024	0.0026	3.05	0.0240	0.8
6. Unabated vertical flow through drill rig subbase	0.0028	0.429	5.28	0.0014	0.028	0.026	0.022	0.0081	0.0123	0.0039	0.0042	5.02	0.0395	0.5
2. Unabated vertical flow through diverter/muffler	0.0045	0.690	8.49	0.0023	0.045	0.041	0.036	0.0131	0.0198	0.0063	0.0068	8.07	0.0635	0.4
7. Unabated vertical flow through small area of fractured rock	0.0088	1.349	16.60	0.0044	0.088	0.081	0.070	0.0256	0.0387	0.0123	0.0132	15.78	0.1241	0.4
10. Unabated horizontal flow through a 4" choke line	0.0714	10.943	134.65	0.0357	0.714	0.656	0.570	0.2076	0.3142	0.0999	0.1071	128.05	1.0067	0.4
3. Unabated horizontal flow through diverter	0.1428	21.886	269.30	0.0714	1.428	1.312	1.141	0.4153	0.6283	0.1998	0.2142	256.11	2.0135	0.4

*NOTE: Both NH3 and HCl are partitioned to the brine and condensate during normal plant operations, and are thus absent from the NCG line.

TABLE 8: SUMMARY OF MODELED GEOTHERMAL BRINE AEROSOL IMPACTS

RELEASE SCENARIO	POINT OF MAXIMUM PREDICTED OFF-SITE IMPACT (>0.3 km)																			
	CONCENTRATION (µg/m3) (Hg = nanograms/m3)																			DISTANCE FROM SOURCE (km)
	Na	K	Ca	Mg	Fe	Li	Sr	Zn	Ba	Mn	Pb	Cl	F	Br	SO4	H4SiO4	H3BO3	HAsO2	Hg (1/1000)	SiO2	
1. Abated vertical flow through diverter/muffler	383	89	67	1.00	40	0.27	0.96	0.88	1.76	3.29	0.038	846	0.0000	3.41	0.077	0.23	0.38	0.0000	0.0766	24	0.4
9. Abated vertical flow from the mud sump	2,699	629	472	7.02	281	1.89	6.75	6.21	12.42	23.21	0.270	5,962	0.0000	24.02	0.540	1.62	2.70	0.0000	0.5398	166	0.4
8. Abated vertical flow from the mud tanks	11,962	2,787	2,093	31.10	1,244	8.37	29.91	27.51	55.03	102.87	1.196	26,424	0.0000	106.46	2.392	7.18	11.96	0.0000	2.3924	736	0.4
11. Unabated noncondensible gas flow	0	0	0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.000	0	0.0000	0.00	0.000	0.00	0.00	0.0000	0.0000	0	0.4
4. Unabated vertical flow through 13-3/8" casing	693	161	121	1.80	72	0.49	1.73	1.59	3.19	5.96	0.069	1,531	0.0000	6.17	0.139	0.42	0.69	0.0000	0.1386	43	0.6
5. Unabated vertical flow through 9-5/8" casing	693	161	121	1.80	72	0.49	1.73	1.59	3.19	5.96	0.069	1,531	0.0000	6.17	0.139	0.42	0.69	0.0000	0.1386	43	0.6
12. Unabated vertical flow through power plant steam release facility	0	0	0	0.00	0	0.00	0.00	0.00	0.00	0.00	0.000	0	0.0000	0.00	0.000	0.00	0.00	0.0000	0.0000	0	0.8
6. Unabated vertical flow through drill rig subbase	938	219	164	2.44	98	0.66	2.35	2.16	4.31	8.07	0.094	2,072	0.0000	8.35	0.188	0.56	0.94	0.0000	0.1876	58	0.5
2. Unabated vertical flow through diverter/muffler	383	89	67	1.00	40	0.27	0.96	0.88	1.76	3.29	0.038	846	0.0000	3.41	0.077	0.23	0.38	0.0000	0.0766	24	0.4
7. Unabated vertical flow through small area of fractured rock	1,874	437	328	4.87	195	1.31	4.69	4.31	8.62	16.12	0.187	4,140	0.0000	16.68	0.375	1.12	1.87	0.0000	0.3748	115	0.4
10. Unabated horizontal flow through a 4" choke line	30,355	7,073	5,312	78.92	3,157	21.25	75.89	69.82	139.63	261.05	3.036	67,054	0.0000	270.16	6.071	18.21	30.36	0.0000	6.0710	1,867	0.4
3. Unabated horizontal flow through diverter	60,697	14,142	10,622	157.81	6,312	42.49	151.74	139.60	279.21	521.98	6.070	134,080	0.0000	540.20	12.139	36.42	60.70	0.0000	2.1394	3,733	0.4

ATTACHMENT 1

AIR TOXICS PROFILE FOR THE WORST CASE WELL-RELATED
UNCONTROLLED FLOW EVENT SCENARIO
PUNA GEOTHERMAL VENTURE PROJECT

PGV Emergency Response Plan
Worst Case Air Toxics Profile

Brine Aerosol Characterization

An estimation of the potential brine aerosol chemical speciation and mass emission rate was performed for the Puna Geothermal Venture (PGV) Uncontrolled Flow Event Scenario Hazards Analysis by Thermochem, Inc. (TCI). The worst case scenario assumes a 500 KPH vertical discharge comprised of 80% steam and 20% brine by mass at atmospheric pressure (14.4 psia).

For this initial evaluation it has been assumed that 50% of the total brine discharge is converted to droplets smaller than 100 um in the atmosphere. The actual fraction of brine converted to aerosol at a given total flow rate (steam + brine) would be strongly dependent on the discharge enthalpy (steam/brine ratio). At high enthalpies a greater proportion of brine would be converted to an aerosol, but the brine discharge rate would be lower, compensating this effect. Therefore, a 50% aerosol production rate appears to be a reasonable worst case assumption given the 500 KPH total flow and 20% brine specification that is several times above any observed discharge rate for Puna and only speculated for the KS-8 well.

The brine chemistry data used in this evaluation, summarized in Table 1, was derived primarily from the KS-3 flow test results and only supplemented with KS-1A data for certain analytes not measured or reported undetected for the KS-3 samples. The KS-3 brine chemistry clearly represents the worst case for the Puna resource known to date given the high salinity and low pH of this fluid. The KS-3 brine contains the highest concentrations of heavy metals, in addition to the other salts, due to the brine acidity that assists in mobilizing these metals in the reservoir. Data used from KS-1A brine analyses were factored up in concentration based on the KS-3/KS-1A chloride ratios. Unfortunately, numerous toxic metals were not measured or reported undetected, with relatively high detection limits, in both sets of data and could not be included in this evaluation.

The worst case discharge scenario considered here assumes that H_2S abatement chemicals (such as NACH) are not injected into the flow. This would be the case when the well vents directly to atmosphere, bypassing any muffler or vapor/liquid separator. The injection of H_2S abatement chemicals under these conditions would have a minimal effect on H_2S emission rates and would only render the brine aerosol considerably more hazardous.

The concentrations of brine aerosol constituents (Table 2) were calculated by assuming droplet evaporation until equilibrium with atmospheric conditions was achieved. Equilibrium is realized when the water vapor pressure exerted by the aerosol, which is depressed due to the high salt concentration, equals the atmospheric water vapor pressure, defined by the ambient temperature and relative humidity. Annual average temperature and

humidity data for Puna was used in the worst case exercise since actual near plume humidities would be much higher.

The primary computer model used in these computations was a heterogeneous chemical equilibrium code using Pitzer-derived specific interaction parameters to predict high ionic strength solution behavior (Weare, 1991). Under the conditions modeled, only amorphous silica precipitates to a solid phase in the aerosol. At 79% relative humidity NaCl is near saturation, which is consistent with a similar study performed by Clegg (1990) where NaCl was found to be supersaturated in seawater aerosols below 75% relative humidity. Certain iron, calcium and magnesium silicates may also precipitate in the Puna aerosol, although there is insufficient thermodynamic data available to predict their formation.

The brine aerosol speciation is based on the known form of certain elements as normally found in hydrothermal reservoirs, the initial speciation expected at the brine pH and redox condition, and consideration of oxidation reaction kinetics upon exposure to atmospheric oxygen. Only iron was assumed to oxidize substantially, although even this reaction would be relatively slow given the low aerosol pH and high chloride content. Many of the cations listed in Table 1 would be present as chloride complexes in addition to the free ion form.

All the weak acid compounds, silicic, boric and arsenious acids, would be unionized at the aerosol pH. For kinetic reasons, arsenic is assumed to remain in the trivalent oxidation state, which is also the most toxic form (Solomon, 1991). Concentrations of each constituent in the aerosol are given by weight as the actual species or compound considered present.

The mass emission rates for each constituent are based on the KS-3 or normalized KS-1A brine chemistry after flashing to 14.4 psia. A total of 50 KPH of the atmospheric flashed brine is assumed to form aerosols. After evaporation of this brine to 47% of its initial weight, 23.5 KPH of concentrated aerosol would be produced. The mass rates of individual constituents were calculated by weight as the respective element or most common compound, as shown in Table 2. These mass emission rates can be used for preliminary modeling of maximum ambient air impacts.

Vapor Phase Characterization

A vapor phase composition of the initial steam plume and mass emission rate of each species was also estimated for the worst case hazards analysis, assuming a 500 KPH discharge comprised of 80% steam and 20% brine by mass at atmospheric pressure (Table 3). Hydrogen sulfide was not evaluated in this exercise, at the request of PGV, since H_2S emission rate estimates and dispersion modeling was previously performed by PGV and Environmental Management Associates (EMA).

For purposes in modeling vapor phase concentrations of hydrogen chloride (HCl), the wellhead pressure was assumed to be 575 psia and the temperature 250°C. No re-equilibration between phases was considered after discharge to atmosphere, which results in

maximum vapor phase concentrations of HCl and arsenic. All other gas species, including H_2S, would partition essentially 100% to the vapor phase after discharge.

The steam chemistry data used in this evaluation was derived from KS-1A and KS-3 flow test sample analysis results. The highest concentration found in the available data was used for each constituent, provided there was no reason to question the data quality. The data sources are also summarized in Table 3.

Arsenic measured in KS-1A steam samples was most likely present in the same form as arsenic in the brine phase ($HAsO_2$), and occurred through direct vapor phase partitioning at the separator temperature. This arsenic would actually condense to an aerosol or particulate phase after cooling in the atmosphere.

The concentration of HCl in the steam phase was calculated based on KS-3 brine chemistry at the wellhead conditions specified above, using the chemical model proposed by Anderson (1989). This model was designed to predict the partial pressure of HCl exerted by high temperature saline brines, such as those found in the Puna resource.

The radon data used in this evaluation was obtained from analysis results of a KS-1A steam sample collected near the end of the flow test (October 27, 1985). Radon data reported for samples collected earlier in the KS-1A flow test is invalid due to the excessive time span (2 months) between sample collection and analysis. This delay resulted in virtually complete decay of the radon. The data reported was essentially the instrument noise multiplied by a decay correction factor of over 50,000. This problem was noted in the original Anatec laboratory report to Thermal Power, dated January 29, 1986. A subsequent data quality study performed by Thermochem, Inc., for Thermal Power also discussed the radon data inaccuracy (1986).

The initial steam plume concentration of each species (other than HCl) in Table 3 is based on the original analysis results (KS-1A or KS-3) after correction to atmospheric flash for the given fluid. All constituent emission rates are based on the steam plume concentrations and a 400 KPH steam flow rate at atmospheric pressure. These emission rates can also be used for preliminary maximum ambient air impact modeling.

References

1. Moller, Nancy; John H. Weare, Zhenhao Duan, Jerry Greenberg, *Models for Optimizing Geothermal Power Plant Performance,* DOE Geothermal Modeling Workshop, 1991.

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3. Solomon, Paul A., Samuel L. Altshuler, Marilyn L. Keller, *Arsenic Speciation in Atmospheric Aerosols at The Geysers,* Geothermal Resources Council TRANSACTIONS, Vol. 15, 1991.

4. Andersen, Greg, *A Thermodynamic Model for Predicting HCl Partial Pressure above a High Temperature Hypersaline Geothermal Fluid,* Geothermal Resources Council, TRANSACTIONS, Vol. 13, October 1989.

TABLE 1

PGV EMERGENCY RESPONSE PLAN
WORST CASE UNCONTROLLED FLOW EVENT

INITIAL BRINE COMPOSITION : ATMOSPHERIC FLASH

DISSOLVED CONSTITUENTS , CATIONS

	INITIAL FORM	ug/g	DATA SOURCE
SODIUM	Na+	3.06E+04	(1)
POTASSIUM	K+	7.14E+03	(1)
CALCIUM	Ca ++	5.33E+03	(1)
MAGNESIUM	Mg++	7.87E+01	(1)
IRON	Fe++	3.17E+03	(1)
LITHIUM	Li+	2.20E+01	(1)
STRONTIUM	Sr++	7.80E+01	(1)
ZINC	Zn ++	6.95E+01	(1)
BARIUM	Ba++	1.42E+02	(1)
MANGANESE	Mn++	2.63E+02	(1)
LEAD	Pb++	3.73E+00	(1)

DISSOLVED CONSTITUENTS , ANIONS

CHLORIDE	Cl-	6.76E+04	(1)
FLUORIDE	F-	2.70E+00	(1)
BROMIDE	Br-	2.71E+02	(2)
SULFATE	SO4=	3.10E+00	(1)

DISSOLVED CONSTITUENTS , NEUTRAL SPECIES

SILICIC ACID	H4SiO4	3.02E+03	(1)
BORIC ACID	H3BO3	1.81E+02	(1)
ARSENICUS ACID	HAsO2	2.32E+00	(2)
MERCURY	Hg	5.21E-03	(2)
BRINE pH		3.58 units	(1)

DATA SOURCES: (1) KS-3 BRINE ANALYSIS ,SAMPLE DATE 03/31/91,FIELD I.D. BC-013
(2) KS-1A BRINE ANALYSIS , SAMPLE DATE 10/24/85,FIELD I.D. 1006 CC

TABLE 2

PGV EMERGENCY RESPONSE PLAN
WORST CASE AIR TOXICS PROFILE

BRINE AEROSOL : SPECIES CONCENTRATIONS			MASS EMISSION RATES			
DISSOLVED CONSTITUENTS , CATIONS	PRIMARY FORM	ug/g	Calculated by WT. as	Lbs/Hr	g/sec	DATA SOURCE
SODIUM	Na+	5.51E+04	Na	1.53E+03	1.93E+02	(1)
POTASSIUM	K+	1.52E+04	K	3.57E+02	4.50E+01	(1)
CALCIUM	Ca ++	1.13E+04	Ca	2.67E+02	3.36E+01	(1)
MAGNESIUM	Mg++	1.67E+02	Mg	3.94E+00	4.96E-01	(1)
IRON	Fe+++	8.74E+03	Fe	1.59E+02	2.00E+01	(1)
LITHIUM	Li+	4.68E+01	Li	1.10E+00	1.39E-01	(1)
STRONTIUM	Sr++	1.66E+02	Sr	3.90E+00	4.92E-01	(1)
ZINC	Zn ++	1.48E+02	Zn	3.48E+00	4.38E-01	(1)
BARIUM	Ba++	3.01E+02	Ba	7.09E+00	8.93E-01	(1)
MANGANESE	Mn++	5.60E+02	Mn	1.32E+01	1.66E+00	(1)
LEAD	Pb++	7.92E+00	Pb	1.86E-01	2.35E-02	(1)
DISSOLVED CONSTITUENTS , ANIONS						
CHLORIDE	Cl-	1.44E+05	Cl	3.38E+03	4.26E+02	(1)
FLUORIDE	F-	5.74E+00	F	1.35E-01	1.70E-02	(1)
BROMIDE	Br-	5.77E+02	Br	1.36E+01	1.71E+00	(2)
SULFATE	SO4=	1.72E+01	SO4	4.05E-01	5.10E-02	(1)
DISSOLVED CONSTITUENTS , NEUTRAL SPECIES						
SILICIC ACID	H4SiO4	7.04E+01	SiO2	1.03E+00	1.30E-01	(1)
BORIC ACID	H3BO3	3.85E+02	B	1.58E+00	1.99E-01	(1)
ARSENIOUS ACID	HAsO2	4.94E+00	As	8.06E-02	1.02E-02	(2)
MERCURY	Hg	1.32E-02	Hg	3.11E-04	3.91E-05	(2)
SOLID PHASE , PRECIPITATES						
AMORPHOUS SILICA	SiO2	4.01E+03	SiO2	9.41E+01	1.19E+01	(1)
AEROSOL pH		3.0 units	TOTAL AEROSOL	2.35E+04	2.96E+03	

NOTES: A. BRINE AEROSOL CONCENTRATIONS BASED ON DROPLET EVAPORATION TO EQUILIBRIUM WITH ATMOSPHERIC CONDITIONS , 71 DEG. F 79% R.H.

B. EMISSION RATES BASED ON 500 KPH VERTICAL VENT ,20 % BRINE FRACTION AT 14.4 PSIA , AND 50 % CONVERSION OF BRINE TO AEROSOL FORM .

C. DATA SOURCES: (1) KS-3 BRINE ANALYSIS ,SAMPLE DATE 03/31/91,FIELD I.D. BC-013
(2) KS-1A BRINE ANALYSIS , SAMPLE DATE 10/24/85,FIELD I.D. 1006 CC

TABLE 3

PGV EMERGENCY RESPONSE PLAN
WORST CASE AIR TOXICS PROFILE

VAPOR PHASE : INITIAL SPECIES CONCENTRATIONS | **MASS EMISSION RATES**

	PRIMARY FORM	ug/g	ug/m3	Calculated By wt. as	Lbs/Hr	g/sec	DATA SOURCE
ARSENIC	HAsO2	1.32E-02	7.76E+00	As	3.68E-03	4.63E-04	(1)
AMMONIA	NH3	1.41E+00	8.26E+02	NH3	5.64E-01	7.10E-02	(2)
METHANE	CH4	1.73E+01	1.02E+04	CH4	6.94E+00	8.74E-01	(2)
ETHENE	C2H4	4.60E-03	2.69E+00	C2H4	1.84E-03	2.32E-04	(3)
ETHANE	C2H6	9.20E-02	5.39E+01	C2H6	3.68E-02	4.63E-03	(3)
PROPENE	C3H6	8.46E-02	4.96E+01	C3H6	3.38E-02	4.26E-03	(3)
PROPANE	C3H8	7.36E-02	4.31E+01	C3H8	2.94E-02	3.71E-03	(3)
2-METHYLPROPANE	C4H10	2.67E-02	1.56E+01	C4H10	1.07E-02	1.34E-03	(3)
n-BUTANE	C4H10	4.05E-02	2.37E+01	C4H10	1.62E-02	2.04E-03	(3)
2-METHYLBUTANE	C5H12	1.29E-02	7.54E+00	C5H12	5.15E-03	6.49E-04	(3)
n-PENTANE	C5H12	1.38E-02	8.08E+00	C5H12	5.52E-03	6.95E-04	(3)
HYDROGEN CHLORIDE	HCl	1.65E+01	9.67E+03	HCl	6.60E+00	8.32E-01	(4)
		pCi/kg	pCi/m3		pCi/Hr	pCi/sec	
RADON 222	Rn-222	2.87E+03	1.68E+03	Rn-222	5.19E+02	1.44E-01	(5)

NOTES : A. INITIAL CONCENTRATIONS OF VAPOR PHASE SPECIES EXPRESSED RELATIVE TO STEAM AT ATMOSPHERIC PRESSURE (PLUME CONDITIONS BEFORE DISPERSION)

B. MASS EMISSION RATES BASED ON 500 KPH VENT AND 80 % STEAM FRACTION AT 14.4 PSIA

C. DATA SOURCES :
(1) KS-1A STEAM ANALYSIS , SAMPLE DATE 10/24/85 , FIELD I.D. 1006 GC-A
(2) KS-3 STEAM ANALYSIS , SAMPLE DATE 03/25/91 , LAB I.D. TCI 3495-01,02
(3) KS-1A STEAM ANALYSIS , SAMPLE DATE 10/17/85 , LAB I.D. ANA 7439-69
(4) KS-3 BRINE ANALYSIS , SAMPLE DATE 03/31/91 , FIELD I.D. BC-013 (CALC.)
(5) KS-1A STEAM ANALYSIS , SAMPLE DATE 10/27/85 , LAB I.D. ANA 7328-01

ATTACHMENT 2

ISCST-MODELED HYDROGEN SULFIDE IMPACTS FOR THE WELL-RELATED UNCONTROLLED FLOW EVENT AND POWER PLANT UPSET SCENARIOS
PUNA GEOTHERMAL VENTURE PROJECT

1 ISCST - (DATED 90346)

IBM-PC VERSION (2.04)
(C) COPYRIGHT 1990, TRINITY CONSULTANTS, INC.
SERIAL NUMBER 6688 SOLD TO ENVIRONMENTAL MANAGMENT ASSOCIATES
RUN BEGAN ON 01-13-92 AT 08:11:55

1

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)	ISW(1) =	1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)	ISW(2) =	3
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)	ISW(3) =	1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)	ISW(4) =	0
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)	ISW(5) =	0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)	ISW(6) =	2
COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)		
WITH THE FOLLOWING TIME PERIODS:		
HOURLY (YES=1,NO=0)	ISW(7) =	1
2-HOUR (YES=1,NO=0)	ISW(8) =	0
3-HOUR (YES=1,NO=0)	ISW(9) =	0
4-HOUR (YES=1,NO=0)	ISW(10) =	0
6-HOUR (YES=1,NO=0)	ISW(11) =	0
8-HOUR (YES=1,NO=0)	ISW(12) =	0
12-HOUR (YES=1,NO=0)	ISW(13) =	0
24-HOUR (YES=1,NO=0)	ISW(14) =	0
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)	ISW(15) =	0
PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE		
SPECIFIED BY ISW(7) THROUGH ISW(14):		
DAILY TABLES (YES=1,NO=0)	ISW(16) =	0
HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)	ISW(17) =	1
MAXIMUM 50 TABLES (YES=1,NO=0)	ISW(18) =	0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)	ISW(19) =	2
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)	ISW(20) =	0
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)	ISW(21) =	1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)	ISW(22) =	1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)	ISW(23) =	0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)	ISW(24) =	1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)	ISW(25) =	1
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)	ISW(26) =	1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)	ISW(27) =	2
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)	ISW(28) =	2
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)	ISW(29) =	2
DEBUG OPTION CHOSEN (YES=1,NO=2)	ISW(30) =	2
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)	ISW(31) =	0
NUMBER OF INPUT SOURCES	NSOURC =	20
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)	NGROUP =	12
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)	IPERD =	0
NUMBER OF X (RANGE) GRID VALUES	NXPNTS =	5
NUMBER OF Y (THETA) GRID VALUES	NYPNTS =	25
NUMBER OF DISCRETE RECEPTORS	NXWYPT =	50
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA	NHOURS =	1
NUMBER OF DAYS OF METEOROLOGICAL DATA	NDAYS =	33
SOURCE EMISSION RATE UNITS CONVERSION FACTOR	TK =	.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED	ZR =	10.00 METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA	IMET =	7
ALLOCATED DATA STORAGE	LIMIT =	43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN	MIMIT =	16720 WORDS

1

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

0 *** NUMBER OF SOURCE NUMBERS REQUIRED TO DEFINE SOURCE GROUPS ***
(NSOGRP)

1, 1, 3, 1, 1, 1, 1, 1, 1, 3, 1, 1,

0 *** SOURCE NUMBERS DEFINING SOURCE GROUPS ***
(IDSOR)

1, 2, 3, 13, -16, 4, 5, 6, 7, 8, 9, 10, 17, -20,
11, 12,

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** X-COORDINATES OF RECTANGULAR GRID SYSTEM ***
(METERS)

-100.0, -50.0, 0.0, 50.0, 100.0,

*** Y-COORDINATES OF RECTANGULAR GRID SYSTEM ***
(METERS)

1000.0, 2000.0, 3000.0, 4000.0, 5000.0, 6000.0, 7000.0, 8000.0, 9000.0, 10000.0,
11000.0, 12000.0, 13000.0, 14000.0, 15000.0, 16000.0, 17000.0, 18000.0, 19000.0, 20000.0,
21000.0, 22000.0, 23000.0, 24000.0, 25000.0,

1

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

*** X,Y COORDINATES OF DISCRETE RECEPTORS ***
(METERS)

(-100.0,	50.0),	(-50.0,	50.0),	(0.0,	50.0),	(50.0,	50.0),	(100.0,	50.0),
(-100.0,	100.0),	(-50.0,	100.0),	(0.0,	100.0),	(50.0,	100.0),	(100.0,	100.0),
(-100.0,	200.0),	(-50.0,	200.0),	(0.0,	200.0),	(50.0,	200.0),	(100.0,	200.0),
(-100.0,	300.0),	(-50.0,	300.0),	(0.0,	300.0),	(50.0,	300.0),	(100.0,	300.0),
(-100.0,	400.0),	(-50.0,	400.0),	(0.0,	400.0),	(50.0,	400.0),	(100.0,	400.0),
(-100.0,	500.0),	(-50.0,	500.0),	(0.0,	500.0),	(50.0,	500.0),	(100.0,	500.0),
(-100.0,	600.0),	(-50.0,	600.0),	(0.0,	600.0),	(50.0,	600.0),	(100.0,	600.0),
(-100.0,	700.0),	(-50.0,	700.0),	(0.0,	700.0),	(50.0,	700.0),	(100.0,	700.0),
(-100.0,	800.0),	(-50.0,	800.0),	(0.0,	800.0),	(50.0,	800.0),	(100.0,	800.0),
(-100.0,	900.0),	(-50.0,	900.0),	(0.0,	900.0),	(50.0,	900.0),	(100.0,	900.0),

(

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

*** SOURCE DATA ***

SOURCE NUMBER	TYPE	WAKE	NUMBER PART. CATS.	EMISSION RATE, TYPE=0,1 (GRAMS/SEC) TYPE=2 *PER METER**2	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	HEIGHT (METERS)	TEMP. TYPE=0 (DEG.K); VERT.DIM TYPE=1 (METERS)	EXIT VEL. TYPE=0 (M/SEC); HORZ.DIM TYPE=1,2 (METERS)	DIAMETER TYPE=0 (METERS)	BLDG. HEIGHT TYPE=0 (METERS)	BLDG. LENGTH TYPE=0 (METERS)	BLDG. WIDTH TYPE=0 (METERS)
1	0	0	0	0.56447E+01	0.0	0.0	204.2	6.10	372.59	5.23	4.57	0.00	0.00	0.00
2	0	0	0	0.56447E+02	0.0	0.0	204.2	6.10	372.59	5.23	4.57	0.00	0.00	0.00
3	1	0	0	0.37673E+01	0.0	19.0	204.2	19.81	9.21	17.72	0.00	0.00	0.00	0.00
4	0	0	0	0.56447E+02	0.0	0.0	204.2	21.64	372.59	0.21	22.86	0.00	0.00	0.00
5	0	0	0	0.56447E+02	0.0	0.0	204.2	21.64	372.59	0.21	22.86	0.00	0.00	0.00
6	0	0	0	0.56447E+02	0.0	0.0	204.2	12.19	372.59	0.18	24.38	0.00	0.00	0.00
7	0	0	0	0.56447E+02	0.0	0.0	204.2	0.00	372.59	0.47	15.24	0.00	0.00	0.00
8	0	0	0	0.56447E+00	0.0	0.0	204.2	1.83	344.26	0.02	7.77	0.00	0.00	0.00
9	0	0	0	0.56447E+00	0.0	0.0	204.2	0.00	344.26	0.02	21.55	0.00	0.00	0.00
10	1	0	0	0.18774E+01	0.0	19.0	204.2	19.81	9.21	17.72	0.00	0.00	0.00	0.00
11	0	0	0	0.61739E+00	0.0	0.0	204.2	0.00	193.00	0.00	1.00	0.00	0.00	0.00
12	0	0	0	0.70559E+02	0.0	0.0	204.2	6.10	372.59	14.37	4.57	0.00	0.00	0.00
13	1	0	0	0.75221E+01	0.0	95.3	204.2	19.81	9.21	17.72	0.00	0.00	0.00	0.00
14	1	0	0	0.11277E+02	0.0	171.5	204.2	19.81	9.21	17.72	0.00	0.00	0.00	0.00
15	1	0	0	0.15057E+02	0.0	247.7	204.2	19.81	9.21	17.72	0.00	0.00	0.00	0.00
16	1	0	0	0.18811E+02	0.0	323.9	204.2	19.81	9.21	17.72	0.00	0.00	0.00	0.00
17	1	0	0	0.37673E+01	0.0	95.3	204.2	19.81	9.21	17.72	0.00	0.00	0.00	0.00
18	1	0	0	0.56447E+01	0.0	171.5	204.2	19.81	9.21	17.72	0.00	0.00	0.00	0.00
19	1	0	0	0.75221E+01	0.0	247.7	204.2	19.81	9.21	17.72	0.00	0.00	0.00	0.00
20	1	0	0	0.94120E+01	0.0	323.9	204.2	19.81	9.21	17.72	0.00	0.00	0.00	0.00

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* SOURCE-RECEPTOR COMBINATIONS LESS THAN 001 METERS OR THREE BUILDING HEIGHTS IN DISTANCE. NO AVERAGE CONCENTRATION IS CALCULATED *

SOURCE NUMBER	- - RECEPTOR LOCATION - - X OR RANGE (METERS)	Y (METERS) OR DIRECTION (DEGREES)	DISTANCE BETWEEN (METERS)
3	0.0	50.0	-7.16
10	0.0	50.0	-7.16
13	0.0	100.0	-33.36
14	0.0	200.0	-9.56
16	0.0	300.0	-14.25
17	0.0	100.0	-33.36
18	0.0	200.0	-9.56
20	0.0	300.0	-14.25

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 1 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	1.00	300.0	300.0	0.0000	1	0.0700	0.000000E+00

1

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 2 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	2.00	300.0	300.0	0.0000	1	0.0700	0.000000E+00

1

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 3 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	3.00	300.0	300.0	0.0000	1	0.0700	0.000000E+00

1

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 4 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	1.00	300.0	298.0	0.0000	2	0.0700	0.000000E+00

1

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 5 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	2.00	300.0	298.0	0.0000	2	0.0700	0.000000E+00

MET. DATA
DAY 6

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 6 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	3.00	300.0	298.0	0.0000	2	0.0700	0.000000E+00

MET. DATA
DAY 7

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 7 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	4.00	300.0	298.0	0.0000	2	0.0700	0.000000E+00

MET. DATA
DAY 8

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 8 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	5.00	300.0	298.0	0.0000	2	0.0700	0.000000E+00

MET. DATA
DAY 9

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 9 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	1.00	300.0	296.0	0.0000	3	0.1000	0.000000E+00

MET. DATA
DAY 10

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 10 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	2.00	300.0	296.0	0.0000	3	0.1000	0.000000E+00

MET. DATA
DAY 11

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 11 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	3.00	300.0	296.0	0.0000	3	0.1000	0.000000E+00

1

MET. DATA
DAY 12

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 12 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	4.00	300.0	296.0	0.0000	3	0.1000	0.000000E+00

1

MET. DATA
DAY 13

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 13 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	5.00	300.0	296.0	0.0000	3	0.1000	0.000000E+00

1

MET. DATA
DAY 14

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 14 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	8.00	300.0	296.0	0.0000	3	0.1000	0.000000E+00

1

MET. DA
DAY 15

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 15 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	10.00	300.0	296.0	0.0000	3	0.1000	0.000000E+00

MET. DATA
DAY 16

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 16 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	1.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

MET. DATA
DAY 17

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 17 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	2.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

MET. DATA
DAY 18

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 18 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	3.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

MET. DATA
DAY 19

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 19 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	4.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

MET. DATA
DAY 20

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 20 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	5.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 21 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	8.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

1

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 22 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	10.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

1

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 23 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	15.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

1

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 24 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	20.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

1

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 25 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	1.00	100.0	291.0	0.0200	5	0.3500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 26 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	2.00	100.0	291.0	0.0200	5	0.3500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 27 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	3.00	100.0	291.0	0.0200	5	0.3500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 28 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	4.00	100.0	291.0	0.0200	5	0.3500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 29 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	5.00	100.0	291.0	0.0200	5	0.3500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 30 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	1.00	100.0	289.0	0.0350	6	0.5500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 31 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	2.00	100.0	289.0	0.0350	6	0.5500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 32 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	3.00	100.0	289.0	0.0350	6	0.5500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 33 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	4.00	100.0	289.0	0.0350	6	0.5500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 1,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 30.01099 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS / (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	14.36572 (30, 1)	14.51106 (30, 1)	14.55983 (30, 1)	14.51107 (30, 1)	14.36574 (30, 1)
24000.0 /	14.68593 (30, 1)	14.84560 (30, 1)	14.89922 (30, 1)	14.84561 (30, 1)	14.68595 (30, 1)
23000.0 /	15.01857 (30, 1)	15.19461 (30, 1)	15.25375 (30, 1)	15.19462 (30, 1)	15.01859 (30, 1)
22000.0 /	15.36406 (30, 1)	15.55886 (30, 1)	15.62435 (30, 1)	15.55887 (30, 1)	15.36407 (30, 1)
21000.0 /	15.72268 (30, 1)	15.93914 (30, 1)	16.01196 (30, 1)	15.93915 (30, 1)	15.72270 (30, 1)
20000.0 /	16.09465 (30, 1)	16.33624 (30, 1)	16.41757 (30, 1)	16.33625 (30, 1)	16.09467 (30, 1)
19000.0 /	16.47997 (30, 1)	16.75089 (30, 1)	16.84220 (30, 1)	16.75091 (30, 1)	16.47999 (30, 1)
18000.0 /	16.87836 (30, 1)	17.18380 (30, 1)	17.28684 (30, 1)	17.18382 (30, 1)	16.87839 (30, 1)
17000.0 /	17.28917 (30, 1)	17.63552 (30, 1)	17.75251 (30, 1)	17.63553 (30, 1)	17.28919 (30, 1)
16000.0 /	17.71114 (30, 1)	18.10639 (30, 1)	18.24010 (30, 1)	18.10641 (30, 1)	17.71116 (30, 1)
15000.0 /	18.14214 (30, 1)	18.59642 (30, 1)	18.75036 (30, 1)	18.59643 (30, 1)	18.14217 (30, 1)
14000.0 /	18.41094 (30, 1)	18.93245 (30, 1)	19.10955 (30, 1)	18.93246 (30, 1)	18.41098 (30, 1)
13000.0 /	18.64104 (30, 1)	19.24400 (30, 1)	19.44929 (30, 1)	19.24401 (30, 1)	18.64107 (30, 1)
12000.0 /	18.81736 (30, 1)	19.52007 (30, 1)	19.76010 (30, 1)	19.52009 (30, 1)	18.81740 (30, 1)
11000.0 /	18.91862 (30, 1)	19.74490 (30, 1)	20.02828 (30, 1)	19.74492 (30, 1)	18.91866 (30, 1)
10000.0 /	18.91577 (30, 1)	19.89711 (30, 1)	20.23541 (30, 1)	19.89713 (30, 1)	18.91582 (30, 1)
9000.0 /	18.97855 (25, 1)	19.94750 (30, 1)	20.35662 (30, 1)	19.94752 (30, 1)	18.97857 (25, 1)
8000.0 /	19.58064 (25, 1)	20.24563 (25, 1)	20.47227 (25, 1)	20.24564 (25, 1)	19.58067 (25, 1)
7000.0 /	19.99098 (25, 1)	20.85464 (25, 1)	21.15074 (25, 1)	20.85465 (25, 1)	19.99100 (25, 1)
6000.0 /	20.05586 (25, 1)	21.20109 (25, 1)	21.59719 (25, 1)	21.20110 (25, 1)	20.05589 (25, 1)
5000.0 /	19.52397 (25, 1)	21.07733 (25, 1)	21.62212 (25, 1)	21.07735 (25, 1)	19.52400 (25, 1)
4000.0 /	17.98990 (25, 1)	20.14481 (25, 1)	20.91903 (25, 1)	20.14483 (25, 1)	17.98994 (25, 1)
3000.0 /	14.49619 (26, 1)	17.52498 (26, 1)	18.66919 (26, 1)	17.52500 (26, 1)	14.49623 (26, 1)
2000.0 /	12.62749 (21, 1)	15.82546 (21, 1)	17.06225 (21, 1)	15.82548 (21, 1)	12.62752 (21, 1)
1000.0 /	15.55249 (2, 1)	23.01575 (23, 1)	30.01099 (23, 1)	23.01579 (23, 1)	15.55250 (2, 1)

1

HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 1,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.05437	(30, 1)
0.0	50.0	0.44360	(30, 1)	50.0	50.0	0.05437	(30, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.02283	(25, 1)
-50.0	100.0	0.64601	(25, 1)	0.0	100.0	2.41861	(30, 1)
50.0	100.0	0.64602	(25, 1)	100.0	100.0	0.02283	(25, 1)
-100.0	200.0	0.03621	(25, 1)	-50.0	200.0	0.78395	(25, 1)
0.0	200.0	5.24939	(24, 1)	50.0	200.0	0.78395	(25, 1)
100.0	200.0	0.03621	(25, 1)	-100.0	300.0	1.65995	(3, 1)
-50.0	300.0	6.78064	(15, 1)	0.0	300.0	27.80252	(24, 1)
50.0	300.0	6.78065	(15, 1)	100.0	300.0	1.65995	(3, 1)
-100.0	400.0	8.19260	(3, 1)	-50.0	400.0	16.77986	(15, 1)
0.0	400.0	41.18331	(24, 1)	50.0	400.0	16.77988	(15, 1)
100.0	400.0	8.19261	(3, 1)	-100.0	500.0	13.58333	(3, 1)
-50.0	500.0	22.59450	(15, 1)	0.0	500.0	44.34478	(24, 1)
50.0	500.0	22.59453	(15, 1)	100.0	500.0	13.58334	(3, 1)
-100.0	600.0	14.64026	(2, 1)	-50.0	600.0	24.20822	(15, 1)
0.0	600.0	42.48670	(24, 1)	50.0	600.0	24.20825	(15, 1)
100.0	600.0	14.64027	(2, 1)	-100.0	700.0	17.42719	(2, 1)
-50.0	700.0	23.54205	(15, 1)	0.0	700.0	38.84076	(24, 1)
50.0	700.0	23.54207	(15, 1)	100.0	700.0	17.42719	(2, 1)
-100.0	800.0	17.54636	(2, 1)	-50.0	800.0	23.42496	(24, 1)
0.0	800.0	34.93639	(24, 1)	50.0	800.0	23.42501	(24, 1)
100.0	800.0	17.54637	(2, 1)	-100.0	900.0	16.59435	(2, 1)
-50.0	900.0	23.52546	(23, 1)	0.0	900.0	32.41837	(23, 1)
50.0	900.0	23.52551	(23, 1)	100.0	900.0	16.59435	(2, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 1,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 27.91977 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	10.27385 (31, 1)	10.37787 (31, 1)	10.41278 (31, 1)	10.37788 (31, 1)	10.27387 (31, 1)
24000.0 /	10.57870 (31, 1)	10.69381 (31, 1)	10.73246 (31, 1)	10.69382 (31, 1)	10.57872 (31, 1)
23000.0 /	10.90079 (31, 1)	11.02867 (31, 1)	11.07163 (31, 1)	11.02868 (31, 1)	10.90080 (31, 1)
22000.0 /	11.24144 (31, 1)	11.38411 (31, 1)	11.43207 (31, 1)	11.38412 (31, 1)	11.24146 (31, 1)
21000.0 /	11.60213 (31, 1)	11.76203 (31, 1)	11.81582 (31, 1)	11.76204 (31, 1)	11.60215 (31, 1)
20000.0 /	11.98441 (31, 1)	12.16450 (31, 1)	12.22513 (31, 1)	12.16451 (31, 1)	11.98442 (31, 1)
19000.0 /	12.38991 (31, 1)	12.59385 (31, 1)	12.66258 (31, 1)	12.59386 (31, 1)	12.38993 (31, 1)
18000.0 /	12.82036 (31, 1)	13.05268 (31, 1)	13.13105 (31, 1)	13.05269 (31, 1)	12.82038 (31, 1)
17000.0 /	13.35157 (25, 1)	13.54385 (31, 1)	13.63383 (31, 1)	13.54386 (31, 1)	13.35158 (25, 1)
16000.0 /	13.94797 (25, 1)	14.08534 (25, 1)	14.17464 (31, 1)	14.08534 (25, 1)	13.94798 (25, 1)
15000.0 /	14.58266 (25, 1)	14.74371 (25, 1)	14.79779 (25, 1)	14.74372 (25, 1)	14.58267 (25, 1)
14000.0 /	15.25633 (25, 1)	15.44680 (25, 1)	15.51082 (25, 1)	15.44681 (25, 1)	15.25634 (25, 1)
13000.0 /	15.96822 (25, 1)	16.19568 (25, 1)	16.27222 (25, 1)	16.19569 (25, 1)	15.96824 (25, 1)
12000.0 /	16.71515 (25, 1)	16.98975 (25, 1)	17.08228 (25, 1)	16.98976 (25, 1)	16.71516 (25, 1)
11000.0 /	17.48979 (25, 1)	17.82539 (25, 1)	17.93869 (25, 1)	17.82540 (25, 1)	17.48980 (25, 1)
10000.0 /	18.27835 (25, 1)	18.69427 (25, 1)	18.83500 (25, 1)	18.69427 (25, 1)	18.27837 (25, 1)
9000.0 /	18.76883 (30, 1)	19.50015 (25, 1)	19.67719 (25, 1)	19.50016 (25, 1)	18.76888 (30, 1)
8000.0 /	18.42194 (30, 1)	19.85576 (30, 1)	20.35809 (30, 1)	19.85579 (30, 1)	18.42199 (30, 1)
7000.0 /	17.79623 (30, 1)	19.56566 (30, 1)	20.19375 (30, 1)	19.56569 (30, 1)	17.79628 (30, 1)
6000.0 /	16.47786 (26, 1)	18.63297 (30, 1)	19.42055 (30, 1)	18.63300 (30, 1)	16.47789 (26, 1)
5000.0 /	16.99904 (26, 1)	18.36312 (26, 1)	19.06910 (31, 1)	18.36314 (26, 1)	16.99907 (26, 1)
4000.0 /	16.80680 (26, 1)	18.84610 (26, 1)	19.57945 (26, 1)	18.84612 (26, 1)	16.80684 (26, 1)
3000.0 /	14.14039 (25, 1)	17.03041 (25, 1)	18.11951 (25, 1)	17.03043 (25, 1)	14.14043 (25, 1)
2000.0 /	12.59149 (22, 1)	15.79916 (22, 1)	17.04066 (22, 1)	15.79917 (22, 1)	12.59152 (22, 1)
1000.0 /	13.77049 (14, 1)	21.37539 (24, 1)	27.91977 (24, 1)	21.37543 (24, 1)	13.77051 (14, 1)

1

2ND HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 1,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.00127	(25, 1)
0.0	50.0	0.01052	(25, 1)	50.0	50.0	0.00127	(25, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.00372	(30, 1)
-50.0	100.0	0.47897	(30, 1)	0.0	100.0	1.96852	(25, 1)
50.0	100.0	0.47897	(30, 1)	100.0	100.0	0.00372	(30, 1)
-100.0	200.0	0.01166	(3, 1)	-50.0	200.0	0.55770	(30, 1)
0.0	200.0	2.74830	(15, 1)	50.0	200.0	0.55770	(30, 1)
100.0	200.0	0.01167	(3, 1)	-100.0	300.0	0.97256	(8, 1)
-50.0	300.0	3.44657	(8, 1)	0.0	300.0	18.63120	(15, 1)
50.0	300.0	3.44658	(8, 1)	100.0	300.0	0.97256	(8, 1)
-100.0	400.0	5.01718	(8, 1)	-50.0	400.0	12.13191	(3, 1)
0.0	400.0	30.58105	(15, 1)	50.0	400.0	12.13191	(3, 1)
100.0	400.0	5.01719	(8, 1)	-100.0	500.0	9.95417	(8, 1)
-50.0	500.0	18.10041	(14, 1)	0.0	500.0	33.72879	(15, 1)
50.0	500.0	18.10044	(14, 1)	100.0	500.0	9.95418	(8, 1)
-100.0	600.0	14.17963	(3, 1)	-50.0	600.0	21.72404	(24, 1)
0.0	600.0	36.74251	(23, 1)	50.0	600.0	21.72411	(24, 1)
100.0	600.0	14.17964	(3, 1)	-100.0	700.0	13.88450	(8, 1)
-50.0	700.0	23.35882	(24, 1)	0.0	700.0	36.32670	(23, 1)
50.0	700.0	23.35888	(24, 1)	100.0	700.0	13.88452	(8, 1)
-100.0	800.0	13.75135	(8, 1)	-50.0	800.0	23.32469	(23, 1)
0.0	800.0	34.65434	(23, 1)	50.0	800.0	23.32474	(23, 1)
100.0	800.0	13.75136	(8, 1)	-100.0	900.0	13.77472	(14, 1)
-50.0	900.0	22.61492	(24, 1)	0.0	900.0	31.24158	(24, 1)
50.0	900.0	22.61496	(24, 1)	100.0	900.0	13.77474	(14, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 2,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 300.10992 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS / (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	143.65723 (30, 1)	145.11058 (30, 1)	145.59833 (30, 1)	145.11067 (30, 1)	143.65739 (30, 1)
24000.0 /	146.85931 (30, 1)	148.45602 (30, 1)	148.99216 (30, 1)	148.45612 (30, 1)	146.85948 (30, 1)
23000.0 /	150.18575 (30, 1)	151.94611 (30, 1)	152.53749 (30, 1)	151.94620 (30, 1)	150.18593 (30, 1)
22000.0 /	153.64055 (30, 1)	155.58862 (30, 1)	156.24348 (30, 1)	155.58871 (30, 1)	153.64075 (30, 1)
21000.0 /	157.22679 (30, 1)	159.39139 (30, 1)	160.11955 (30, 1)	159.39149 (30, 1)	157.22701 (30, 1)
20000.0 /	160.94649 (30, 1)	163.36234 (30, 1)	164.17569 (30, 1)	163.36246 (30, 1)	160.94672 (30, 1)
19000.0 /	164.79965 (30, 1)	167.50894 (30, 1)	168.42194 (30, 1)	167.50906 (30, 1)	164.79990 (30, 1)
18000.0 /	168.78360 (30, 1)	171.83801 (30, 1)	172.86842 (30, 1)	171.83813 (30, 1)	168.78384 (30, 1)
17000.0 /	172.89166 (30, 1)	176.35516 (30, 1)	177.52505 (30, 1)	176.35530 (30, 1)	172.89194 (30, 1)
16000.0 /	177.11136 (30, 1)	181.06390 (30, 1)	182.40099 (30, 1)	181.06406 (30, 1)	177.11165 (30, 1)
15000.0 /	181.42139 (30, 1)	185.96416 (30, 1)	187.50360 (30, 1)	185.96431 (30, 1)	181.42171 (30, 1)
14000.0 /	184.10942 (30, 1)	189.32445 (30, 1)	191.09547 (30, 1)	189.32462 (30, 1)	184.10976 (30, 1)
13000.0 /	186.41034 (30, 1)	192.43994 (30, 1)	194.49290 (30, 1)	192.44012 (30, 1)	186.41071 (30, 1)
12000.0 /	188.17357 (30, 1)	195.20071 (30, 1)	197.60100 (30, 1)	195.20091 (30, 1)	188.17397 (30, 1)
11000.0 /	189.18614 (30, 1)	197.44899 (30, 1)	200.28278 (30, 1)	197.44920 (30, 1)	189.18655 (30, 1)
10000.0 /	189.15773 (30, 1)	198.97107 (30, 1)	202.35411 (30, 1)	198.97130 (30, 1)	189.15819 (30, 1)
9000.0 /	189.78546 (25, 1)	199.47498 (30, 1)	203.56621 (30, 1)	199.47523 (30, 1)	189.78568 (25, 1)
8000.0 /	195.80640 (25, 1)	202.45627 (25, 1)	204.72275 (25, 1)	202.45639 (25, 1)	195.80664 (25, 1)
7000.0 /	199.90974 (25, 1)	208.54634 (25, 1)	211.50740 (25, 1)	208.54649 (25, 1)	199.91002 (25, 1)
6000.0 /	200.55856 (25, 1)	212.01086 (25, 1)	215.97188 (25, 1)	212.01103 (25, 1)	200.55887 (25, 1)
5000.0 /	195.23965 (25, 1)	210.77328 (25, 1)	216.22116 (25, 1)	210.77347 (25, 1)	195.24001 (25, 1)
4000.0 /	179.89902 (25, 1)	201.44809 (25, 1)	209.19023 (25, 1)	201.44830 (25, 1)	179.89940 (25, 1)
3000.0 /	144.96194 (26, 1)	175.24977 (26, 1)	186.69191 (26, 1)	175.25000 (26, 1)	144.96233 (26, 1)
2000.0 /	126.27491 (21, 1)	158.25464 (21, 1)	170.62253 (21, 1)	158.25481 (21, 1)	126.27518 (21, 1)
1000.0 /	155.52490 (2, 1)	230.15749 (23, 1)	300.10992 (23, 1)	230.15790 (23, 1)	155.52496 (2, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 2,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.54370	(30, 1)
0.0	50.0	4.43602	(30, 1)	50.0	50.0	0.54370	(30, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.22831	(25, 1)
-50.0	100.0	6.46006	(25, 1)	0.0	100.0	24.18613	(30, 1)
50.0	100.0	6.46023	(25, 1)	100.0	100.0	0.22832	(25, 1)
-100.0	200.0	0.36211	(25, 1)	-50.0	200.0	7.83946	(25, 1)
0.0	200.0	52.49389	(24, 1)	50.0	200.0	7.83948	(25, 1)
100.0	200.0	0.36211	(25, 1)	-100.0	300.0	16.59948	(3, 1)
-50.0	300.0	67.80637	(15, 1)	0.0	300.0	278.02518	(24, 1)
50.0	300.0	67.80652	(15, 1)	100.0	300.0	16.59949	(3, 1)
-100.0	400.0	81.92597	(3, 1)	-50.0	400.0	167.79857	(15, 1)
0.0	400.0	411.83310	(24, 1)	50.0	400.0	167.79884	(15, 1)
100.0	400.0	81.92604	(3, 1)	-100.0	500.0	135.83331	(3, 1)
-50.0	500.0	225.94499	(15, 1)	0.0	500.0	443.44781	(24, 1)
50.0	500.0	225.94530	(15, 1)	100.0	500.0	135.83339	(3, 1)
-100.0	600.0	146.40263	(2, 1)	-50.0	600.0	242.08218	(15, 1)
0.0	600.0	424.86697	(24, 1)	50.0	600.0	242.08247	(15, 1)
100.0	600.0	146.40269	(2, 1)	-100.0	700.0	174.27185	(2, 1)
-50.0	700.0	235.42047	(15, 1)	0.0	700.0	388.40756	(24, 1)
50.0	700.0	235.42073	(15, 1)	100.0	700.0	174.27193	(2, 1)
-100.0	800.0	175.46364	(2, 1)	-50.0	800.0	234.24959	(24, 1)
0.0	800.0	349.36386	(24, 1)	50.0	800.0	234.25011	(24, 1)
100.0	800.0	175.46371	(2, 1)	-100.0	900.0	165.94345	(2, 1)
-50.0	900.0	235.25462	(23, 1)	0.0	900.0	324.18365	(23, 1)
50.0	900.0	235.25510	(23, 1)	100.0	900.0	165.94351	(2, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 2,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 279.19766 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	102.73854 (31, 1)	103.77872 (31, 1)	104.12780 (31, 1)	103.77878 (31, 1)	102.73866 (31, 1)
24000.0 /	105.78704 (31, 1)	106.93814 (31, 1)	107.32464 (31, 1)	106.93820 (31, 1)	105.78717 (31, 1)
23000.0 /	109.00786 (31, 1)	110.28667 (31, 1)	110.71629 (31, 1)	110.28674 (31, 1)	109.00800 (31, 1)
22000.0 /	112.41444 (31, 1)	113.84113 (31, 1)	114.32074 (31, 1)	113.84121 (31, 1)	112.41458 (31, 1)
21000.0 /	116.02133 (31, 1)	117.62028 (31, 1)	118.15816 (31, 1)	117.62035 (31, 1)	116.02148 (31, 1)
20000.0 /	119.84408 (31, 1)	121.64498 (31, 1)	122.25130 (31, 1)	121.64507 (31, 1)	119.64425 (31, 1)
19000.0 /	123.89911 (31, 1)	125.93850 (31, 1)	126.62576 (31, 1)	125.93859 (31, 1)	123.89929 (31, 1)
18000.0 /	128.20357 (31, 1)	130.52676 (31, 1)	131.31050 (31, 1)	130.52686 (31, 1)	128.20377 (31, 1)
17000.0 /	133.51570 (25, 1)	135.43849 (31, 1)	136.33830 (31, 1)	135.43860 (31, 1)	133.51579 (25, 1)
16000.0 /	139.47968 (25, 1)	140.85339 (25, 1)	141.74640 (31, 1)	140.85344 (25, 1)	139.47977 (25, 1)
15000.0 /	145.82658 (25, 1)	147.43710 (25, 1)	147.97792 (25, 1)	147.43716 (25, 1)	145.82669 (25, 1)
14000.0 /	152.56329 (25, 1)	154.46799 (25, 1)	155.10818 (25, 1)	154.46806 (25, 1)	152.56342 (25, 1)
13000.0 /	159.68224 (25, 1)	161.95683 (25, 1)	162.72223 (25, 1)	161.95689 (25, 1)	159.68237 (25, 1)
12000.0 /	167.15146 (25, 1)	169.89748 (25, 1)	170.82283 (25, 1)	169.89755 (25, 1)	167.15161 (25, 1)
11000.0 /	174.89786 (25, 1)	178.25392 (25, 1)	179.38690 (25, 1)	178.25401 (25, 1)	174.89803 (25, 1)
10000.0 /	182.78346 (25, 1)	186.94264 (25, 1)	188.35001 (25, 1)	186.94275 (25, 1)	182.78366 (25, 1)
9000.0 /	187.68829 (30, 1)	195.00150 (25, 1)	196.77187 (25, 1)	195.00160 (25, 1)	187.68877 (30, 1)
8000.0 /	184.21939 (30, 1)	198.55759 (30, 1)	203.58092 (30, 1)	198.55786 (30, 1)	184.21991 (30, 1)
7000.0 /	177.96225 (30, 1)	195.65665 (30, 1)	201.93753 (30, 1)	195.65695 (30, 1)	177.96280 (30, 1)
6000.0 /	164.77864 (26, 1)	186.32968 (30, 1)	194.20546 (30, 1)	186.33000 (30, 1)	164.77890 (26, 1)
5000.0 /	169.99039 (26, 1)	183.63121 (26, 1)	190.69095 (31, 1)	183.63138 (26, 1)	169.99069 (26, 1)
4000.0 /	168.06802 (26, 1)	188.46100 (26, 1)	195.79449 (26, 1)	188.46121 (26, 1)	168.06837 (26, 1)
3000.0 /	141.40388 (25, 1)	170.30409 (25, 1)	181.19514 (25, 1)	170.30432 (25, 1)	141.40425 (25, 1)
2000.0 /	125.91491 (22, 1)	157.99156 (22, 1)	170.40656 (22, 1)	157.99173 (22, 1)	125.91518 (22, 1)
1000.0 /	137.70486 (14, 1)	213.75394 (24, 1)	279.19766 (24, 1)	213.75433 (24, 1)	137.70508 (14, 1)

1

2ND HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 2,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.01273	(25, 1)
0.0	50.0	0.10522	(25, 1)	50.0	50.0	0.01273	(25, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.03720	(30, 1)
-50.0	100.0	4.78970	(30, 1)	0.0	100.0	19.68518	(25, 1)
50.0	100.0	4.78971	(30, 1)	100.0	100.0	0.03720	(30, 1)
-100.0	200.0	0.11662	(3, 1)	-50.0	200.0	5.57699	(30, 1)
0.0	200.0	27.48297	(15, 1)	50.0	200.0	5.57700	(30, 1)
100.0	200.0	0.11672	(3, 1)	-100.0	300.0	9.72563	(8, 1)
-50.0	300.0	34.46574	(8, 1)	0.0	300.0	186.31201	(15, 1)
50.0	300.0	34.46577	(8, 1)	100.0	300.0	9.72565	(8, 1)
-100.0	400.0	50.17179	(8, 1)	-50.0	400.0	121.31908	(3, 1)
0.0	400.0	305.81042	(15, 1)	50.0	400.0	121.31912	(3, 1)
100.0	400.0	50.17187	(8, 1)	-100.0	500.0	99.54169	(8, 1)
-50.0	500.0	181.00414	(14, 1)	0.0	500.0	337.28784	(15, 1)
50.0	500.0	181.00436	(14, 1)	100.0	500.0	99.54181	(8, 1)
-100.0	600.0	141.79626	(3, 1)	-50.0	600.0	217.24045	(24, 1)
0.0	600.0	367.42511	(23, 1)	50.0	600.0	217.24106	(24, 1)
100.0	600.0	141.79634	(3, 1)	-100.0	700.0	138.84502	(8, 1)
-50.0	700.0	233.58821	(24, 1)	0.0	700.0	363.26697	(23, 1)
50.0	700.0	233.58879	(24, 1)	100.0	700.0	138.84515	(8, 1)
-100.0	800.0	137.51347	(8, 1)	-50.0	800.0	233.24690	(23, 1)
0.0	800.0	346.54337	(23, 1)	50.0	800.0	233.24742	(23, 1)
100.0	800.0	137.51358	(8, 1)	-100.0	900.0	137.74718	(14, 1)
-50.0	900.0	226.14915	(24, 1)	0.0	900.0	312.41583	(24, 1)
50.0	900.0	226.14963	(24, 1)	100.0	900.0	137.74741	(14, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 3, 13, -16,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 8605.34668 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS / (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	291.53802 (30, 1)	294.43787 (30, 1)	295.41095 (30, 1)	294.43805 (30, 1)	291.53839 (30, 1)
24000.0 /	305.47165 (30, 1)	308.73489 (30, 1)	309.83044 (30, 1)	308.73508 (30, 1)	305.47202 (30, 1)
23000.0 /	320.67520 (30, 1)	324.36566 (30, 1)	325.60529 (30, 1)	324.36588 (30, 1)	320.67560 (30, 1)
22000.0 /	337.32275 (30, 1)	341.51895 (30, 1)	342.92932 (30, 1)	341.51917 (30, 1)	337.32318 (30, 1)
21000.0 /	355.62085 (30, 1)	360.42029 (30, 1)	362.03452 (30, 1)	360.42053 (30, 1)	355.62128 (30, 1)
20000.0 /	375.81601 (30, 1)	381.34094 (30, 1)	383.20062 (30, 1)	381.34119 (30, 1)	375.81656 (30, 1)
19000.0 /	398.20477 (30, 1)	404.61005 (30, 1)	406.76804 (30, 1)	404.61029 (30, 1)	398.20538 (30, 1)
18000.0 /	423.14673 (30, 1)	430.63095 (30, 1)	433.15509 (30, 1)	430.63129 (30, 1)	423.14734 (30, 1)
17000.0 /	451.08136 (30, 1)	459.90265 (30, 1)	462.88138 (30, 1)	459.90298 (30, 1)	451.08206 (30, 1)
16000.0 /	482.55090 (30, 1)	493.04956 (30, 1)	496.59973 (30, 1)	493.04996 (30, 1)	482.55170 (30, 1)
15000.0 /	517.52643 (30, 1)	530.14099 (30, 1)	534.41394 (30, 1)	530.14136 (30, 1)	517.52728 (30, 1)
14000.0 /	560.37036 (30, 1)	575.79602 (30, 1)	581.03186 (30, 1)	575.79651 (30, 1)	560.37134 (30, 1)
13000.0 /	610.63354 (30, 1)	629.79224 (30, 1)	636.31134 (30, 1)	629.79285 (30, 1)	610.63464 (30, 1)
12000.0 /	669.25159 (30, 1)	693.44183 (30, 1)	701.69824 (30, 1)	693.44250 (30, 1)	669.25293 (30, 1)
11000.0 /	738.27649 (30, 1)	769.40894 (30, 1)	780.07581 (30, 1)	769.40973 (30, 1)	738.27808 (30, 1)
10000.0 /	820.41522 (30, 1)	861.39111 (30, 1)	875.50000 (30, 1)	861.39203 (30, 1)	820.41711 (30, 1)
9000.0 /	919.26318 (30, 1)	974.65234 (30, 1)	993.84802 (30, 1)	974.65356 (30, 1)	919.26526 (30, 1)
8000.0 /	1039.58826 (30, 1)	1116.90967 (30, 1)	1143.94214 (30, 1)	1116.91113 (30, 1)	1039.59082 (30, 1)
7000.0 /	1185.94580 (30, 1)	1298.07642 (30, 1)	1337.76355 (30, 1)	1298.07825 (30, 1)	1185.94922 (30, 1)
6000.0 /	1371.21875 (30, 1)	1542.63330 (30, 1)	1604.41211 (30, 1)	1542.63574 (30, 1)	1371.22302 (30, 1)
5000.0 /	1603.65979 (30, 1)	1883.67993 (30, 1)	1987.50488 (30, 1)	1883.68335 (30, 1)	1603.66553 (30, 1)
4000.0 /	1872.62866 (30, 1)	2368.91870 (30, 1)	2562.07275 (30, 1)	2368.92383 (30, 1)	1872.63647 (30, 1)
3000.0 /	2104.68994 (30, 1)	3079.73901 (30, 1)	3496.70654 (30, 1)	3079.74634 (30, 1)	2104.70044 (30, 1)
2000.0 /	2146.46460 (25, 1)	4063.64844 (30, 1)	5199.51172 (30, 1)	4063.66113 (30, 1)	2146.47144 (25, 1)
1000.0 /	2108.23242 (16, 1)	5103.53809 (25, 1)	8605.34668 (30, 1)	5103.54980 (25, 1)	2108.23853 (16, 1)

1

HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 3, 13, -16,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.00000	(0, 0)
0.0	50.0	0.00000	(0, 0)	50.0	50.0	0.00000	(0, 0)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.00000	(0, 0)
-50.0	100.0	378.89456	(1, 1)	0.0	100.0	1142.53784	(9, 1)
50.0	100.0	378.89481	(1, 1)	100.0	100.0	0.00000	(0, 0)
-100.0	200.0	202.36325	(1, 1)	-50.0	200.0	1117.72803	(4, 1)
0.0	200.0	3151.46558	(9, 1)	50.0	200.0	1117.72888	(4, 1)
100.0	200.0	202.36349	(1, 1)	-100.0	300.0	534.81128	(1, 1)
-50.0	300.0	3024.33594	(4, 1)	0.0	300.0	9988.27734	(9, 1)
50.0	300.0	3024.33838	(4, 1)	100.0	300.0	534.81183	(1, 1)
-100.0	400.0	921.31323	(1, 1)	-50.0	400.0	4912.34814	(4, 1)
0.0	400.0	14365.40039	(16, 1)	50.0	400.0	4912.35156	(4, 1)
100.0	400.0	921.31403	(1, 1)	-100.0	500.0	1521.49390	(4, 1)
-50.0	500.0	5429.22705	(9, 1)	0.0	500.0	13315.02539	(16, 1)
50.0	500.0	5429.23291	(9, 1)	100.0	500.0	1521.49609	(4, 1)
-100.0	600.0	1733.68152	(4, 1)	-50.0	600.0	5624.42676	(16, 1)
0.0	600.0	11542.34570	(16, 1)	50.0	600.0	5624.43652	(16, 1)
100.0	600.0	1733.68347	(4, 1)	-100.0	700.0	1783.24976	(9, 1)
-50.0	700.0	5729.05566	(16, 1)	0.0	700.0	10424.50781	(25, 1)
50.0	700.0	5729.06543	(16, 1)	100.0	700.0	1783.25317	(9, 1)
-100.0	800.0	1864.07397	(9, 1)	-50.0	800.0	5494.63428	(16, 1)
0.0	800.0	9456.61523	(25, 1)	50.0	800.0	5494.64307	(16, 1)
100.0	800.0	1864.07715	(9, 1)	-100.0	900.0	1919.57629	(16, 1)
-50.0	900.0	5182.89746	(25, 1)	0.0	900.0	9018.02539	(30, 1)
50.0	900.0	5182.90918	(25, 1)	100.0	900.0	1919.58203	(16, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 3, 13, -16,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 7763.14355 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS)	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0	145.76901 (31, 1)	147.21893 (31, 1)	147.70547 (31, 1)	147.21902 (31, 1)	145.76920 (31, 1)
24000.0	152.73582 (31, 1)	154.36745 (31, 1)	154.91522 (31, 1)	154.36754 (31, 1)	152.73601 (31, 1)
23000.0	160.33760 (31, 1)	162.18283 (31, 1)	162.80264 (31, 1)	162.18294 (31, 1)	160.33780 (31, 1)
22000.0	168.66138 (31, 1)	170.75948 (31, 1)	171.46466 (31, 1)	170.75958 (31, 1)	168.66159 (31, 1)
21000.0	177.81042 (31, 1)	180.21014 (31, 1)	181.01726 (31, 1)	180.21027 (31, 1)	177.81064 (31, 1)
20000.0	187.90800 (31, 1)	190.67047 (31, 1)	191.60031 (31, 1)	190.67059 (31, 1)	187.90828 (31, 1)
19000.0	199.10239 (31, 1)	202.30502 (31, 1)	203.38402 (31, 1)	202.30515 (31, 1)	199.10269 (31, 1)
18000.0	211.57336 (31, 1)	215.31548 (31, 1)	216.57755 (31, 1)	215.31564 (31, 1)	211.57367 (31, 1)
17000.0	225.54068 (31, 1)	229.95132 (31, 1)	231.44069 (31, 1)	229.95149 (31, 1)	225.54103 (31, 1)
16000.0	241.27545 (31, 1)	246.52478 (31, 1)	248.29987 (31, 1)	246.52498 (31, 1)	241.27585 (31, 1)
15000.0	258.76321 (31, 1)	265.07050 (31, 1)	267.20697 (31, 1)	265.07068 (31, 1)	258.76364 (31, 1)
14000.0	280.18518 (31, 1)	287.89801 (31, 1)	290.51593 (31, 1)	287.89825 (31, 1)	280.18567 (31, 1)
13000.0	305.31677 (31, 1)	314.89612 (31, 1)	318.15567 (31, 1)	314.89642 (31, 1)	305.31732 (31, 1)
12000.0	334.62579 (31, 1)	346.72092 (31, 1)	350.84912 (31, 1)	346.72125 (31, 1)	334.62646 (31, 1)
11000.0	369.13824 (31, 1)	384.70447 (31, 1)	390.03790 (31, 1)	384.70486 (31, 1)	369.13904 (31, 1)
10000.0	411.76709 (25, 1)	430.69556 (31, 1)	437.75000 (31, 1)	430.69601 (31, 1)	411.76752 (25, 1)
9000.0	472.05408 (25, 1)	487.32617 (31, 1)	496.92401 (31, 1)	487.32678 (31, 1)	472.05457 (25, 1)
8000.0	549.17639 (25, 1)	567.62598 (25, 1)	573.91272 (25, 1)	567.62628 (25, 1)	549.17706 (25, 1)
7000.0	650.04456 (25, 1)	677.81714 (25, 1)	687.33624 (25, 1)	677.81763 (25, 1)	650.04535 (25, 1)
6000.0	785.89063 (25, 1)	830.27332 (25, 1)	845.61829 (25, 1)	830.27386 (25, 1)	785.89178 (25, 1)
5000.0	975.04413 (25, 1)	1051.84119 (25, 1)	1078.76343 (25, 1)	1051.84204 (25, 1)	975.04578 (25, 1)
4000.0	1242.58557 (25, 1)	1390.39893 (25, 1)	1443.48621 (25, 1)	1390.40027 (25, 1)	1242.58801 (25, 1)
3000.0	1652.17297 (25, 1)	1991.04285 (25, 1)	2118.84302 (25, 1)	1991.04517 (25, 1)	1652.17700 (25, 1)
2000.0	1943.67261 (30, 1)	3136.62256 (25, 1)	3560.08984 (25, 1)	3136.62744 (25, 1)	1943.68433 (30, 1)
1000.0	1704.74976 (9, 1)	4757.47266 (16, 1)	7763.14355 (25, 1)	4757.47949 (16, 1)	1704.75244 (9, 1)

1

2ND HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 3, 13, -16,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.00000	(0, 0)
0.0	50.0	0.00000	(0, 0)	50.0	50.0	0.00000	(0, 0)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.00000	(0, 0)
-50.0	100.0	307.49426	(4, 1)	0.0	100.0	1085.21472	(4, 1)
50.0	100.0	307.49463	(4, 1)	100.0	100.0	0.00000	(0, 0)
-100.0	200.0	111.73393	(4, 1)	-50.0	200.0	1081.23230	(1, 1)
0.0	200.0	3020.23389	(16, 1)	50.0	200.0	1081.23279	(1, 1)
100.0	200.0	111.73412	(4, 1)	-100.0	300.0	406.35938	(4, 1)
-50.0	300.0	2988.96265	(1, 1)	0.0	300.0	9610.01953	(16, 1)
50.0	300.0	2988.96436	(1, 1)	100.0	300.0	406.35986	(4, 1)
-100.0	400.0	893.52429	(4, 1)	-50.0	400.0	4534.73389	(9, 1)
0.0	400.0	13815.90234	(9, 1)	50.0	400.0	4534.73877	(9, 1)
100.0	400.0	893.52557	(4, 1)	-100.0	500.0	1301.91553	(1, 1)
-50.0	500.0	4892.54199	(16, 1)	0.0	500.0	12029.47852	(25, 1)
50.0	500.0	4892.55078	(16, 1)	100.0	500.0	1301.91675	(1, 1)
-100.0	600.0	1489.57422	(9, 1)	-50.0	600.0	5061.23584	(9, 1)
0.0	600.0	11361.34668	(25, 1)	50.0	600.0	5061.24072	(9, 1)
100.0	600.0	1489.57727	(9, 1)	-100.0	700.0	1605.11353	(4, 1)
-50.0	700.0	4870.35938	(25, 1)	0.0	700.0	9820.06836	(16, 1)
50.0	700.0	4870.37061	(25, 1)	100.0	700.0	1605.11499	(4, 1)
-100.0	800.0	1625.48596	(16, 1)	-50.0	800.0	5133.68799	(25, 1)
0.0	800.0	9397.77246	(30, 1)	50.0	800.0	5133.70068	(25, 1)
100.0	800.0	1625.49084	(16, 1)	-100.0	900.0	1815.56873	(9, 1)
-50.0	900.0	5144.27441	(16, 1)	0.0	900.0	8557.44727	(25, 1)
50.0	900.0	5144.28223	(16, 1)	100.0	900.0	1815.57153	(9, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 4,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 166.93977 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS)	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0	86.40832 (30, 1)	87.28294 (30, 1)	87.57646 (30, 1)	87.28299 (30, 1)	86.40842 (30, 1)
24000.0	88.07448 (30, 1)	89.03259 (30, 1)	89.35428 (30, 1)	89.03264 (30, 1)	88.07458 (30, 1)
23000.0	89.78332 (30, 1)	90.83630 (30, 1)	91.19005 (30, 1)	90.83636 (30, 1)	89.78343 (30, 1)
22000.0	91.53252 (30, 1)	92.69383 (30, 1)	93.08422 (30, 1)	92.69389 (30, 1)	91.53264 (30, 1)
21000.0	93.31859 (30, 1)	94.60422 (30, 1)	95.03671 (30, 1)	94.60429 (30, 1)	93.31872 (30, 1)
20000.0	95.13628 (30, 1)	96.56537 (30, 1)	97.04651 (30, 1)	96.56544 (30, 1)	95.13641 (30, 1)
19000.0	96.97801 (30, 1)	98.57362 (30, 1)	99.11133 (30, 1)	98.57369 (30, 1)	96.97816 (30, 1)
18000.0	98.83317 (30, 1)	100.62332 (30, 1)	101.22724 (30, 1)	100.62340 (30, 1)	98.83332 (30, 1)
17000.0	100.68695 (30, 1)	102.70600 (30, 1)	103.38800 (30, 1)	102.70608 (30, 1)	100.68711 (30, 1)
16000.0	102.51892 (30, 1)	104.80935 (30, 1)	105.58418 (30, 1)	104.80944 (30, 1)	102.51909 (30, 1)
15000.0	104.30079 (30, 1)	106.91571 (30, 1)	107.80187 (30, 1)	106.91580 (30, 1)	104.30096 (30, 1)
14000.0	107.64511 (25, 1)	108.98982 (25, 1)	109.44180 (25, 1)	108.98987 (25, 1)	107.64520 (25, 1)
13000.0	111.99289 (25, 1)	113.58926 (25, 1)	114.12643 (25, 1)	113.58930 (25, 1)	111.99299 (25, 1)
12000.0	116.41211 (25, 1)	118.32607 (25, 1)	118.97104 (25, 1)	118.32613 (25, 1)	116.41222 (25, 1)
11000.0	120.80189 (25, 1)	123.12205 (25, 1)	123.90531 (25, 1)	123.12211 (25, 1)	120.80201 (25, 1)
10000.0	125.00088 (25, 1)	127.84832 (25, 1)	128.81183 (25, 1)	127.84839 (25, 1)	125.00101 (25, 1)
9000.0	128.09018 (25, 1)	131.61519 (25, 1)	132.81165 (25, 1)	131.61526 (25, 1)	128.09032 (25, 1)
8000.0	129.98233 (25, 1)	134.40387 (25, 1)	135.91092 (25, 1)	134.40396 (25, 1)	129.98250 (25, 1)
7000.0	129.89729 (25, 1)	135.52075 (25, 1)	137.44887 (25, 1)	135.52084 (25, 1)	129.89748 (25, 1)
6000.0	126.64941 (25, 1)	133.90108 (25, 1)	136.40945 (25, 1)	133.90118 (25, 1)	126.64961 (25, 1)
5000.0	118.47974 (25, 1)	127.94205 (25, 1)	131.26125 (25, 1)	127.94217 (25, 1)	118.47995 (25, 1)
4000.0	102.94048 (25, 1)	115.34181 (25, 1)	119.79916 (25, 1)	115.34193 (25, 1)	102.94070 (25, 1)
3000.0	86.73267 (10, 1)	90.83924 (10, 1)	95.82949 (26, 1)	90.83927 (10, 1)	86.73273 (10, 1)
2000.0	108.38101 (5, 1)	113.27032 (5, 1)	121.35062 (22, 1)	113.27035 (5, 1)	108.38106 (5, 1)
1000.0	147.79041 (2, 1)	160.13829 (2, 1)	166.93977 (14, 1)	160.13832 (2, 1)	147.79045 (2, 1)

1

HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 4,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.00000	(30, 1)
0.0	50.0	0.00002	(30, 1)	50.0	50.0	0.00000	(30, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.00518	(25, 1)
-50.0	100.0	0.34826	(25, 1)	0.0	100.0	1.41621	(25, 1)
50.0	100.0	0.34828	(25, 1)	100.0	100.0	0.00518	(25, 1)
-100.0	200.0	0.03005	(3, 1)	-50.0	200.0	0.81875	(25, 1)
0.0	200.0	2.72081	(25, 1)	50.0	200.0	0.81875	(25, 1)
100.0	200.0	0.03008	(3, 1)	-100.0	300.0	9.42641	(3, 1)
-50.0	300.0	18.12719	(3, 1)	0.0	300.0	38.45771	(15, 1)
50.0	300.0	18.12720	(3, 1)	100.0	300.0	9.42642	(3, 1)
-100.0	400.0	61.74636	(3, 1)	-50.0	400.0	91.80869	(3, 1)
0.0	400.0	115.89244	(15, 1)	50.0	400.0	91.80872	(3, 1)
100.0	400.0	61.74641	(3, 1)	-100.0	500.0	115.96919	(3, 1)
-50.0	500.0	151.78448	(3, 1)	0.0	500.0	172.07773	(15, 1)
50.0	500.0	151.78453	(3, 1)	100.0	500.0	115.96927	(3, 1)
-100.0	600.0	135.02815	(2, 1)	-50.0	600.0	161.66185	(2, 1)
0.0	600.0	194.87155	(15, 1)	50.0	600.0	161.66190	(2, 1)
100.0	600.0	135.02821	(2, 1)	-100.0	700.0	164.56766	(2, 1)
-50.0	700.0	189.71365	(2, 1)	0.0	700.0	198.92223	(2, 1)
50.0	700.0	189.71370	(2, 1)	100.0	700.0	164.56772	(2, 1)
-100.0	800.0	166.69812	(2, 1)	-50.0	800.0	187.05219	(2, 1)
0.0	800.0	194.37489	(2, 1)	50.0	800.0	187.05223	(2, 1)
100.0	800.0	166.69820	(2, 1)	-100.0	900.0	157.74208	(2, 1)
-50.0	900.0	173.51654	(2, 1)	0.0	900.0	179.11778	(2, 1)
50.0	900.0	173.51657	(2, 1)	100.0	900.0	157.74214	(2, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 4,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 166.92752 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS)	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0	70.98795 (25, 1)	71.30583 (25, 1)	71.41212 (25, 1)	71.30585 (25, 1)	70.98799 (25, 1)
24000.0	73.45352 (25, 1)	73.80695 (25, 1)	73.92515 (25, 1)	73.80697 (25, 1)	73.45357 (25, 1)
23000.0	76.07738 (25, 1)	76.47194 (25, 1)	76.60392 (25, 1)	76.47196 (25, 1)	76.07743 (25, 1)
22000.0	78.87391 (25, 1)	79.31632 (25, 1)	79.46436 (25, 1)	79.31635 (25, 1)	78.87395 (25, 1)
21000.0	81.85903 (25, 1)	82.35748 (25, 1)	82.52430 (25, 1)	82.35750 (25, 1)	81.85908 (25, 1)
20000.0	85.05039 (25, 1)	85.61488 (25, 1)	85.80388 (25, 1)	85.61490 (25, 1)	85.05044 (25, 1)
19000.0	88.35042 (25, 1)	88.99247 (25, 1)	89.20753 (25, 1)	88.99250 (25, 1)	88.35047 (25, 1)
18000.0	91.83634 (25, 1)	92.57074 (25, 1)	92.81685 (25, 1)	92.57077 (25, 1)	91.83640 (25, 1)
17000.0	95.51250 (25, 1)	96.35770 (25, 1)	96.64109 (25, 1)	96.35773 (25, 1)	95.51257 (25, 1)
16000.0	99.37899 (25, 1)	100.35822 (25, 1)	100.68678 (25, 1)	100.35825 (25, 1)	99.37906 (25, 1)
15000.0	103.42903 (25, 1)	104.57191 (25, 1)	104.95570 (25, 1)	104.57196 (25, 1)	103.42912 (25, 1)
14000.0	104.80951 (30, 1)	107.78249 (30, 1)	108.79214 (30, 1)	107.78259 (30, 1)	104.80970 (30, 1)
13000.0	104.91891 (30, 1)	108.31806 (30, 1)	109.47545 (30, 1)	108.31817 (30, 1)	104.91912 (30, 1)
12000.0	104.51522 (30, 1)	108.42548 (30, 1)	109.76118 (30, 1)	108.42559 (30, 1)	104.51543 (30, 1)
11000.0	103.44550 (30, 1)	107.97337 (30, 1)	109.52632 (30, 1)	107.97349 (30, 1)	103.44572 (30, 1)
10000.0	101.51237 (30, 1)	106.79234 (30, 1)	108.61270 (30, 1)	106.79247 (30, 1)	101.51261 (30, 1)
9000.0	98.46101 (30, 1)	104.66361 (30, 1)	106.81684 (30, 1)	104.66375 (30, 1)	98.46126 (30, 1)
8000.0	97.14505 (26, 1)	101.30511 (30, 1)	103.87772 (30, 1)	101.30524 (30, 1)	97.14517 (26, 1)
7000.0	101.06947 (26, 1)	105.46191 (26, 1)	106.96810 (26, 1)	105.46198 (26, 1)	101.06960 (26, 1)
6000.0	103.43893 (26, 1)	109.39207 (26, 1)	111.45166 (26, 1)	109.39215 (26, 1)	103.43909 (26, 1)
5000.0	102.64743 (26, 1)	110.90421 (26, 1)	113.80154 (26, 1)	110.90431 (26, 1)	102.64761 (26, 1)
4000.0	95.83032 (26, 1)	107.50060 (26, 1)	111.69842 (26, 1)	107.50072 (26, 1)	95.83053 (26, 1)
3000.0	83.49776 (5, 1)	89.92365 (26, 1)	93.27660 (25, 1)	89.92376 (26, 1)	83.49778 (5, 1)
2000.0	93.58311 (12, 1)	112.49309 (22, 1)	120.34840 (21, 1)	112.49321 (22, 1)	93.58320 (12, 1)
1000.0	109.17087 (7, 1)	148.74783 (14, 1)	166.92752 (23, 1)	148.74796 (14, 1)	109.17094 (7, 1)

1

2ND HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 4,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.00000	(25, 1)
0.0	50.0	0.00000	(25, 1)	50.0	50.0	0.00000	(25, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.00026	(30, 1)
-50.0	100.0	0.15922	(30, 1)	0.0	100.0	1.34507	(30, 1)
50.0	100.0	0.15922	(30, 1)	100.0	100.0	0.00026	(30, 1)
-100.0	200.0	0.02231	(25, 1)	-50.0	200.0	0.21223	(30, 1)
0.0	200.0	1.54860	(30, 1)	50.0	200.0	0.21223	(30, 1)
100.0	200.0	0.02231	(25, 1)	-100.0	300.0	3.28493	(8, 1)
-50.0	300.0	13.89655	(15, 1)	0.0	300.0	22.54198	(3, 1)
50.0	300.0	13.89658	(15, 1)	100.0	300.0	3.28493	(8, 1)
-100.0	400.0	26.25138	(8, 1)	-50.0	400.0	63.35564	(15, 1)
0.0	400.0	104.78712	(3, 1)	50.0	400.0	63.35574	(15, 1)
100.0	400.0	26.25142	(8, 1)	-100.0	500.0	74.76759	(2, 1)
-50.0	500.0	115.01746	(15, 1)	0.0	500.0	166.03093	(3, 1)
50.0	500.0	115.01762	(15, 1)	100.0	500.0	74.76764	(2, 1)
-100.0	600.0	128.82957	(3, 1)	-50.0	600.0	156.83070	(3, 1)
0.0	600.0	171.65982	(2, 1)	50.0	600.0	156.83075	(3, 1)
100.0	600.0	128.82965	(3, 1)	-100.0	700.0	122.70412	(3, 1)
-50.0	700.0	156.92682	(15, 1)	0.0	700.0	195.57297	(15, 1)
50.0	700.0	156.92699	(15, 1)	100.0	700.0	122.70419	(3, 1)
-100.0	800.0	114.76163	(3, 1)	-50.0	800.0	156.76149	(15, 1)
0.0	800.0	186.44238	(15, 1)	50.0	800.0	156.76164	(15, 1)
100.0	800.0	114.76168	(3, 1)	-100.0	900.0	111.07755	(7, 1)
-50.0	900.0	153.63974	(14, 1)	0.0	900.0	176.59396	(14, 1)
50.0	900.0	153.63988	(14, 1)	100.0	900.0	111.07763	(7, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 5,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 166.93977 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	86.40832 (30, 1)	87.28294 (30, 1)	87.57646 (30, 1)	87.28299 (30, 1)	86.40842 (30, 1)
24000.0 /	88.07448 (30, 1)	89.03259 (30, 1)	89.35428 (30, 1)	89.03264 (30, 1)	88.07458 (30, 1)
23000.0 /	89.78332 (30, 1)	90.83630 (30, 1)	91.19005 (30, 1)	90.83636 (30, 1)	89.78343 (30, 1)
22000.0 /	91.53252 (30, 1)	92.69383 (30, 1)	93.08422 (30, 1)	92.69389 (30, 1)	91.53264 (30, 1)
21000.0 /	93.31859 (30, 1)	94.60422 (30, 1)	95.03671 (30, 1)	94.60429 (30, 1)	93.31872 (30, 1)
20000.0 /	95.13628 (30, 1)	96.56537 (30, 1)	97.04651 (30, 1)	96.56544 (30, 1)	95.13641 (30, 1)
19000.0 /	96.97801 (30, 1)	98.57362 (30, 1)	99.11133 (30, 1)	98.57369 (30, 1)	96.97816 (30, 1)
18000.0 /	98.83317 (30, 1)	100.62332 (30, 1)	101.22724 (30, 1)	100.62340 (30, 1)	98.83332 (30, 1)
17000.0 /	100.68695 (30, 1)	102.70600 (30, 1)	103.38800 (30, 1)	102.70608 (30, 1)	100.68711 (30, 1)
16000.0 /	102.51892 (30, 1)	104.80935 (30, 1)	105.58418 (30, 1)	104.80944 (30, 1)	102.51909 (30, 1)
15000.0 /	104.30079 (30, 1)	106.91571 (30, 1)	107.80187 (30, 1)	106.91580 (30, 1)	104.30096 (30, 1)
14000.0 /	107.64511 (25, 1)	108.98982 (25, 1)	109.44180 (25, 1)	108.98987 (25, 1)	107.64520 (25, 1)
13000.0 /	111.99289 (25, 1)	113.58926 (25, 1)	114.12643 (25, 1)	113.58930 (25, 1)	111.99299 (25, 1)
12000.0 /	116.41211 (25, 1)	118.32607 (25, 1)	118.97104 (25, 1)	118.32613 (25, 1)	116.41222 (25, 1)
11000.0 /	120.80189 (25, 1)	123.12205 (25, 1)	123.90531 (25, 1)	123.12211 (25, 1)	120.80201 (25, 1)
10000.0 /	125.00088 (25, 1)	127.84832 (25, 1)	128.81183 (25, 1)	127.84839 (25, 1)	125.00101 (25, 1)
9000.0 /	128.09018 (25, 1)	131.61519 (25, 1)	132.81165 (25, 1)	131.61526 (25, 1)	128.09032 (25, 1)
8000.0 /	129.98233 (25, 1)	134.40387 (25, 1)	135.91092 (25, 1)	134.40396 (25, 1)	129.98250 (25, 1)
7000.0 /	129.89729 (25, 1)	135.52075 (25, 1)	137.44887 (25, 1)	135.52084 (25, 1)	129.89748 (25, 1)
6000.0 /	126.64941 (25, 1)	133.90108 (25, 1)	136.40945 (25, 1)	133.90118 (25, 1)	126.64961 (25, 1)
5000.0 /	118.47974 (25, 1)	127.94205 (25, 1)	131.26125 (25, 1)	127.94217 (25, 1)	118.47995 (25, 1)
4000.0 /	102.94048 (25, 1)	115.34181 (25, 1)	119.79916 (25, 1)	115.34193 (25, 1)	102.94070 (25, 1)
3000.0 /	86.73267 (10, 1)	90.83924 (10, 1)	95.82949 (26, 1)	90.83927 (10, 1)	86.73273 (10, 1)
2000.0 /	108.38101 (5, 1)	113.27032 (5, 1)	121.35062 (22, 1)	113.27035 (5, 1)	108.38106 (5, 1)
1000.0 /	147.79041 (2, 1)	160.13829 (2, 1)	166.93977 (14, 1)	160.13832 (2, 1)	147.79045 (2, 1)

1

HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 5,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.00000	(30, 1)
0.0	50.0	0.00002	(30, 1)	50.0	50.0	0.00000	(30, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.00518	(25, 1)
-50.0	100.0	0.34826	(25, 1)	0.0	100.0	1.41621	(25, 1)
50.0	100.0	0.34828	(25, 1)	100.0	100.0	0.00518	(25, 1)
-100.0	200.0	0.03005	(3, 1)	-50.0	200.0	0.81875	(25, 1)
0.0	200.0	2.72081	(25, 1)	50.0	200.0	0.81875	(25, 1)
100.0	200.0	0.03008	(3, 1)	-100.0	300.0	9.42641	(3, 1)
-50.0	300.0	18.12719	(3, 1)	0.0	300.0	38.45771	(15, 1)
50.0	300.0	18.12720	(3, 1)	100.0	300.0	9.42642	(3, 1)
-100.0	400.0	61.74636	(3, 1)	-50.0	400.0	91.80869	(3, 1)
0.0	400.0	115.89244	(15, 1)	50.0	400.0	91.80872	(3, 1)
100.0	400.0	61.74641	(3, 1)	-100.0	500.0	115.96919	(3, 1)
-50.0	500.0	151.78448	(3, 1)	0.0	500.0	172.07773	(15, 1)
50.0	500.0	151.78453	(3, 1)	100.0	500.0	115.96927	(3, 1)
-100.0	600.0	135.02815	(2, 1)	-50.0	600.0	161.66185	(2, 1)
0.0	600.0	194.87155	(15, 1)	50.0	600.0	161.66190	(2, 1)
100.0	600.0	135.02821	(2, 1)	-100.0	700.0	164.56766	(2, 1)
-50.0	700.0	189.71365	(2, 1)	0.0	700.0	198.92223	(2, 1)
50.0	700.0	189.71370	(2, 1)	100.0	700.0	164.56772	(2, 1)
-100.0	800.0	166.69812	(2, 1)	-50.0	800.0	187.05219	(2, 1)
0.0	800.0	194.37489	(2, 1)	50.0	800.0	187.05223	(2, 1)
100.0	800.0	166.69820	(2, 1)	-100.0	900.0	157.74208	(2, 1)
-50.0	900.0	173.51654	(2, 1)	0.0	900.0	179.11778	(2, 1)
50.0	900.0	173.51657	(2, 1)	100.0	900.0	157.74214	(2, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 5,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 166.92752 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS)	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0	70.98795 (25, 1)	71.30583 (25, 1)	71.41212 (25, 1)	71.30585 (25, 1)	70.98799 (25, 1)
24000.0	73.45352 (25, 1)	73.80695 (25, 1)	73.92515 (25, 1)	73.80697 (25, 1)	73.45357 (25, 1)
23000.0	76.07738 (25, 1)	76.47194 (25, 1)	76.60392 (25, 1)	76.47196 (25, 1)	76.07743 (25, 1)
22000.0	78.87391 (25, 1)	79.31632 (25, 1)	79.46436 (25, 1)	79.31635 (25, 1)	78.87395 (25, 1)
21000.0	81.85903 (25, 1)	82.35748 (25, 1)	82.52430 (25, 1)	82.35750 (25, 1)	81.85908 (25, 1)
20000.0	85.05039 (25, 1)	85.61488 (25, 1)	85.80388 (25, 1)	85.61490 (25, 1)	85.05044 (25, 1)
19000.0	88.35042 (25, 1)	88.99247 (25, 1)	89.20753 (25, 1)	88.99250 (25, 1)	88.35047 (25, 1)
18000.0	91.83634 (25, 1)	92.57074 (25, 1)	92.81685 (25, 1)	92.57077 (25, 1)	91.83640 (25, 1)
17000.0	95.51250 (25, 1)	96.35770 (25, 1)	96.64109 (25, 1)	96.35773 (25, 1)	95.51257 (25, 1)
16000.0	99.37899 (25, 1)	100.35822 (25, 1)	100.68678 (25, 1)	100.35825 (25, 1)	99.37906 (25, 1)
15000.0	103.42903 (25, 1)	104.57191 (25, 1)	104.95570 (25, 1)	104.57196 (25, 1)	103.42912 (25, 1)
14000.0	104.80951 (30, 1)	107.78249 (30, 1)	108.79214 (30, 1)	107.78259 (30, 1)	104.80970 (30, 1)
13000.0	104.91891 (30, 1)	108.31806 (30, 1)	109.47545 (30, 1)	108.31817 (30, 1)	104.91912 (30, 1)
12000.0	104.51522 (30, 1)	108.42548 (30, 1)	109.76118 (30, 1)	108.42559 (30, 1)	104.51543 (30, 1)
11000.0	103.44550 (30, 1)	107.97337 (30, 1)	109.52632 (30, 1)	107.97349 (30, 1)	103.44572 (30, 1)
10000.0	101.51237 (30, 1)	106.79234 (30, 1)	108.61270 (30, 1)	106.79247 (30, 1)	101.51261 (30, 1)
9000.0	98.46101 (30, 1)	104.66361 (30, 1)	106.81684 (30, 1)	104.66375 (30, 1)	98.46126 (30, 1)
8000.0	97.14505 (26, 1)	101.30511 (30, 1)	103.87772 (30, 1)	101.30524 (30, 1)	97.14517 (26, 1)
7000.0	101.06947 (26, 1)	105.46191 (26, 1)	106.96810 (26, 1)	105.46198 (26, 1)	101.06960 (26, 1)
6000.0	103.43893 (26, 1)	109.39207 (26, 1)	111.45166 (26, 1)	109.39215 (26, 1)	103.43909 (26, 1)
5000.0	102.64743 (26, 1)	110.90421 (26, 1)	113.80154 (26, 1)	110.90431 (26, 1)	102.64761 (26, 1)
4000.0	95.83032 (26, 1)	107.50060 (26, 1)	111.69842 (26, 1)	107.50072 (26, 1)	95.83053 (26, 1)
3000.0	83.49776 (5, 1)	89.92365 (26, 1)	93.27660 (25, 1)	89.92376 (26, 1)	83.49778 (5, 1)
2000.0	93.58311 (12, 1)	112.49309 (22, 1)	120.34840 (21, 1)	112.49321 (22, 1)	93.58320 (12, 1)
1000.0	109.17087 (7, 1)	148.74783 (14, 1)	166.92752 (23, 1)	148.74796 (14, 1)	109.17094 (7, 1)

1

2ND HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 5,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.00000	(25, 1)
0.0	50.0	0.00000	(25, 1)	50.0	50.0	0.00000	(25, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.00026	(30, 1)
-50.0	100.0	0.15922	(30, 1)	0.0	100.0	1.34507	(30, 1)
50.0	100.0	0.15922	(30, 1)	100.0	100.0	0.00026	(30, 1)
-100.0	200.0	0.02231	(25, 1)	-50.0	200.0	0.21223	(30, 1)
0.0	200.0	1.54860	(30, 1)	50.0	200.0	0.21223	(30, 1)
100.0	200.0	0.02231	(25, 1)	-100.0	300.0	3.28493	(8, 1)
-50.0	300.0	13.89655	(15, 1)	0.0	300.0	22.54198	(3, 1)
50.0	300.0	13.89658	(15, 1)	100.0	300.0	3.28493	(8, 1)
-100.0	400.0	26.25138	(8, 1)	-50.0	400.0	63.35564	(15, 1)
0.0	400.0	104.78712	(3, 1)	50.0	400.0	63.35574	(15, 1)
100.0	400.0	26.25142	(8, 1)	-100.0	500.0	74.76759	(2, 1)
-50.0	500.0	115.01746	(15, 1)	0.0	500.0	166.03093	(3, 1)
50.0	500.0	115.01762	(15, 1)	100.0	500.0	74.76764	(2, 1)
-100.0	600.0	128.82957	(3, 1)	-50.0	600.0	156.83070	(3, 1)
0.0	600.0	171.65982	(2, 1)	50.0	600.0	156.83075	(3, 1)
100.0	600.0	128.82965	(3, 1)	-100.0	700.0	122.70412	(3, 1)
-50.0	700.0	156.92682	(15, 1)	0.0	700.0	195.57297	(15, 1)
50.0	700.0	156.92699	(15, 1)	100.0	700.0	122.70419	(3, 1)
-100.0	800.0	114.76163	(3, 1)	-50.0	800.0	156.76149	(15, 1)
0.0	800.0	186.44238	(15, 1)	50.0	800.0	156.76164	(15, 1)
100.0	800.0	114.76168	(3, 1)	-100.0	900.0	111.07755	(7, 1)
-50.0	900.0	153.63974	(14, 1)	0.0	900.0	176.59396	(14, 1)
50.0	900.0	153.63988	(14, 1)	100.0	900.0	111.07763	(7, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 6,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 243.16646 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	121.06509 (30, 1)	122.29007 (30, 1)	122.70117 (30, 1)	122.29015 (30, 1)	121.06524 (30, 1)
24000.0 /	123.55380 (30, 1)	124.89735 (30, 1)	125.34846 (30, 1)	124.89742 (30, 1)	123.55396 (30, 1)
23000.0 /	126.12313 (30, 1)	127.60168 (30, 1)	128.09840 (30, 1)	127.60177 (30, 1)	126.12329 (30, 1)
22000.0 /	128.77313 (30, 1)	130.40619 (30, 1)	130.95515 (30, 1)	130.40628 (30, 1)	128.77330 (30, 1)
21000.0 /	131.50266 (30, 1)	133.31346 (30, 1)	133.92261 (30, 1)	133.31354 (30, 1)	131.50284 (30, 1)
20000.0 /	134.30887 (30, 1)	136.32530 (30, 1)	137.00418 (30, 1)	136.32539 (30, 1)	134.30905 (30, 1)
19000.0 /	137.18657 (30, 1)	139.44243 (30, 1)	140.20262 (30, 1)	139.44254 (30, 1)	137.18677 (30, 1)
18000.0 /	140.12735 (30, 1)	142.66383 (30, 1)	143.51952 (30, 1)	142.66394 (30, 1)	140.12756 (30, 1)
17000.0 /	143.11829 (30, 1)	145.98616 (30, 1)	146.95486 (30, 1)	145.98627 (30, 1)	143.11852 (30, 1)
16000.0 /	146.14023 (30, 1)	149.40265 (30, 1)	150.50626 (30, 1)	149.40277 (30, 1)	146.14047 (30, 1)
15000.0 /	149.16501 (30, 1)	152.90140 (30, 1)	154.16759 (30, 1)	152.90152 (30, 1)	149.16527 (30, 1)
14000.0 /	150.61209 (30, 1)	154.87999 (30, 1)	156.32938 (30, 1)	154.88013 (30, 1)	150.61237 (30, 1)
13000.0 /	151.62280 (30, 1)	156.52942 (30, 1)	158.20004 (30, 1)	156.52957 (30, 1)	151.62309 (30, 1)
12000.0 /	152.05762 (30, 1)	157.73904 (30, 1)	159.67969 (30, 1)	157.73921 (30, 1)	152.05792 (30, 1)
11000.0 /	154.19086 (25, 1)	158.35493 (30, 1)	160.62903 (30, 1)	158.35510 (30, 1)	154.19101 (25, 1)
10000.0 /	160.33752 (25, 1)	163.98705 (25, 1)	165.22194 (25, 1)	163.98712 (25, 1)	160.33769 (25, 1)
9000.0 /	165.39537 (25, 1)	169.94269 (25, 1)	171.48611 (25, 1)	169.94279 (25, 1)	165.39555 (25, 1)
8000.0 /	169.27429 (25, 1)	175.02563 (25, 1)	176.98589 (25, 1)	175.02574 (25, 1)	169.27449 (25, 1)
7000.0 /	171.07545 (25, 1)	178.47052 (25, 1)	181.00595 (25, 1)	178.47064 (25, 1)	171.07570 (25, 1)
6000.0 /	169.38173 (25, 1)	179.06102 (25, 1)	182.40887 (25, 1)	179.06116 (25, 1)	169.38199 (25, 1)
5000.0 /	161.98253 (25, 1)	174.88359 (25, 1)	179.40842 (25, 1)	174.88376 (25, 1)	161.98282 (25, 1)
4000.0 /	145.53687 (25, 1)	162.99724 (25, 1)	169.27109 (25, 1)	162.99741 (25, 1)	145.53719 (25, 1)
3000.0 /	112.80209 (26, 1)	136.41112 (26, 1)	145.33185 (26, 1)	136.41130 (26, 1)	112.80239 (26, 1)
2000.0 /	112.85825 (5, 1)	139.61703 (22, 1)	150.59435 (22, 1)	139.61719 (22, 1)	112.85830 (5, 1)
1000.0 /	153.50703 (2, 1)	186.44502 (23, 1)	243.16646 (23, 1)	186.44536 (23, 1)	153.50710 (2, 1)

1

HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 6,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.02400	(30, 1)
0.0	50.0	0.32506	(30, 1)	50.0	50.0	0.02400	(30, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.08842	(25, 1)
-50.0	100.0	2.91530	(25, 1)	0.0	100.0	9.43190	(30, 1)
50.0	100.0	2.91540	(25, 1)	100.0	100.0	0.08842	(25, 1)
-100.0	200.0	0.14810	(25, 1)	-50.0	200.0	3.64760	(25, 1)
0.0	200.0	10.61269	(25, 1)	50.0	200.0	3.64760	(25, 1)
100.0	200.0	0.14810	(25, 1)	-100.0	300.0	12.96821	(3, 1)
-50.0	300.0	36.99505	(15, 1)	0.0	300.0	101.84873	(15, 1)
50.0	300.0	36.99513	(15, 1)	100.0	300.0	12.96822	(3, 1)
-100.0	400.0	72.54109	(3, 1)	-50.0	400.0	115.92285	(15, 1)
0.0	400.0	211.47961	(15, 1)	50.0	400.0	115.92304	(15, 1)
100.0	400.0	72.54115	(3, 1)	-100.0	500.0	127.32531	(3, 1)
-50.0	500.0	175.26016	(15, 1)	0.0	500.0	271.32639	(24, 1)
50.0	500.0	175.26041	(15, 1)	100.0	500.0	127.32539	(3, 1)
-100.0	600.0	141.96736	(2, 1)	-50.0	600.0	200.48972	(15, 1)
0.0	600.0	292.33371	(24, 1)	50.0	600.0	200.48996	(15, 1)
100.0	600.0	141.96744	(2, 1)	-100.0	700.0	171.31602	(2, 1)
-50.0	700.0	202.75325	(15, 1)	0.0	700.0	287.24609	(24, 1)
50.0	700.0	202.75346	(15, 1)	100.0	700.0	171.31610	(2, 1)
-100.0	800.0	173.11925	(2, 1)	-50.0	800.0	194.22334	(15, 1)
0.0	800.0	271.81274	(24, 1)	50.0	800.0	194.22353	(15, 1)
100.0	800.0	173.11931	(2, 1)	-100.0	900.0	163.80162	(2, 1)
-50.0	900.0	186.27202	(14, 1)	0.0	900.0	254.47247	(23, 1)
50.0	900.0	186.27219	(14, 1)	100.0	900.0	163.80168	(2, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 6,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 231.85069 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	88.37141 (25, 1)	88.76707 (25, 1)	88.89935 (25, 1)	88.76709 (25, 1)	88.37145 (25, 1)
24000.0 /	91.50127 (25, 1)	91.94147 (25, 1)	92.08868 (25, 1)	91.94150 (25, 1)	91.50133 (25, 1)
23000.0 /	94.83781 (25, 1)	95.32958 (25, 1)	95.49408 (25, 1)	95.32961 (25, 1)	94.83787 (25, 1)
22000.0 /	98.40068 (25, 1)	98.95251 (25, 1)	99.13716 (25, 1)	98.95255 (25, 1)	98.40074 (25, 1)
21000.0 /	102.21182 (25, 1)	102.83407 (25, 1)	103.04233 (25, 1)	102.83410 (25, 1)	102.21188 (25, 1)
20000.0 /	106.29586 (25, 1)	107.00119 (25, 1)	107.23735 (25, 1)	107.00122 (25, 1)	106.29592 (25, 1)
19000.0 /	110.56250 (25, 1)	111.36577 (25, 1)	111.63483 (25, 1)	111.36580 (25, 1)	110.56257 (25, 1)
18000.0 /	115.09079 (25, 1)	116.01089 (25, 1)	116.31924 (25, 1)	116.01093 (25, 1)	115.09087 (25, 1)
17000.0 /	119.89283 (25, 1)	120.95344 (25, 1)	121.30907 (25, 1)	120.95348 (25, 1)	119.89291 (25, 1)
16000.0 /	124.97722 (25, 1)	126.20826 (25, 1)	126.62131 (25, 1)	126.20831 (25, 1)	124.97731 (25, 1)
15000.0 /	130.34631 (25, 1)	131.78609 (25, 1)	132.26955 (25, 1)	131.78613 (25, 1)	130.34642 (25, 1)
14000.0 /	135.99213 (25, 1)	137.69022 (25, 1)	138.26097 (25, 1)	137.69028 (25, 1)	135.99223 (25, 1)
13000.0 /	141.88992 (25, 1)	143.91144 (25, 1)	144.59169 (25, 1)	143.91150 (25, 1)	141.89005 (25, 1)
12000.0 /	147.98788 (25, 1)	150.41960 (25, 1)	151.23904 (25, 1)	150.41968 (25, 1)	147.98802 (25, 1)
11000.0 /	151.72417 (30, 1)	157.15033 (25, 1)	158.14941 (25, 1)	157.15041 (25, 1)	151.72450 (30, 1)
10000.0 /	150.36769 (30, 1)	158.17435 (30, 1)	160.86568 (30, 1)	158.17453 (30, 1)	150.36804 (30, 1)
9000.0 /	147.64806 (30, 1)	156.92848 (30, 1)	160.14989 (30, 1)	156.92868 (30, 1)	147.64844 (30, 1)
8000.0 /	143.10822 (30, 1)	154.25891 (30, 1)	158.16571 (30, 1)	154.25912 (30, 1)	143.10863 (30, 1)
7000.0 /	136.13043 (30, 1)	149.68460 (30, 1)	154.49628 (30, 1)	149.68483 (30, 1)	136.13086 (30, 1)
6000.0 /	139.83154 (26, 1)	147.86909 (26, 1)	150.64970 (26, 1)	147.86922 (26, 1)	139.83176 (26, 1)
5000.0 /	141.78040 (26, 1)	153.16504 (26, 1)	157.15961 (26, 1)	153.16518 (26, 1)	141.78064 (26, 1)
4000.0 /	136.73061 (26, 1)	153.33778 (26, 1)	159.31029 (26, 1)	153.33795 (26, 1)	136.73090 (26, 1)
3000.0 /	109.48261 (25, 1)	131.91858 (25, 1)	140.37608 (25, 1)	131.91875 (25, 1)	109.48289 (25, 1)
2000.0 /	111.25722 (22, 1)	138.52063 (21, 1)	149.35577 (21, 1)	138.52078 (21, 1)	111.25745 (22, 1)
1000.0 /	124.74788 (14, 1)	177.48235 (24, 1)	231.85069 (24, 1)	177.48268 (24, 1)	124.74807 (14, 1)

1

2ND HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 6,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.00068	(25, 1)
0.0	50.0	0.00762	(25, 1)	50.0	50.0	0.00068	(25, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.00900	(30, 1)
-50.0	100.0	1.65766	(30, 1)	0.0	100.0	9.34817	(25, 1)
50.0	100.0	1.65767	(30, 1)	100.0	100.0	0.00900	(30, 1)
-100.0	200.0	0.06494	(3, 1)	-50.0	200.0	1.99278	(30, 1)
0.0	200.0	10.27523	(30, 1)	50.0	200.0	1.99279	(30, 1)
100.0	200.0	0.06501	(3, 1)	-100.0	300.0	6.27927	(8, 1)
-50.0	300.0	24.80095	(3, 1)	0.0	300.0	94.58611	(24, 1)
50.0	300.0	24.80096	(3, 1)	100.0	300.0	6.27928	(8, 1)
-100.0	400.0	38.68829	(8, 1)	-50.0	400.0	107.53783	(3, 1)
0.0	400.0	206.45926	(24, 1)	50.0	400.0	107.53787	(3, 1)
100.0	400.0	38.68835	(8, 1)	-100.0	500.0	84.18063	(8, 1)
-50.0	500.0	166.33978	(3, 1)	0.0	500.0	261.78360	(15, 1)
50.0	500.0	166.33983	(3, 1)	100.0	500.0	84.18073	(8, 1)
-100.0	600.0	136.90382	(3, 1)	-50.0	600.0	175.85812	(14, 1)
0.0	600.0	267.55844	(15, 1)	50.0	600.0	175.85834	(14, 1)
100.0	600.0	136.90390	(3, 1)	-100.0	700.0	128.38989	(3, 1)
-50.0	700.0	197.21503	(2, 1)	0.0	700.0	258.57883	(23, 1)
50.0	700.0	197.21507	(2, 1)	100.0	700.0	128.38995	(3, 1)
-100.0	800.0	127.96165	(8, 1)	-50.0	800.0	194.07736	(2, 1)
0.0	800.0	260.93854	(23, 1)	50.0	800.0	194.07741	(2, 1)
100.0	800.0	127.96175	(8, 1)	-100.0	900.0	123.05807	(7, 1)
-50.0	900.0	184.60580	(23, 1)	0.0	900.0	252.25761	(24, 1)
50.0	900.0	184.60619	(23, 1)	100.0	900.0	123.05817	(7, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 7,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 358.62192 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS / (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	162.29411 (30, 1)	163.93602 (30, 1)	164.48703 (30, 1)	163.93611 (30, 1)	162.29430 (30, 1)
24000.0 /	166.37422 (30, 1)	168.18312 (30, 1)	168.79048 (30, 1)	168.18323 (30, 1)	166.37444 (30, 1)
23000.0 /	170.64676 (30, 1)	172.64694 (30, 1)	173.31891 (30, 1)	172.64705 (30, 1)	170.64697 (30, 1)
22000.0 /	175.12300 (30, 1)	177.34346 (30, 1)	178.08989 (30, 1)	177.34357 (30, 1)	175.12323 (30, 1)
21000.0 /	179.81450 (30, 1)	182.29007 (30, 1)	183.12285 (30, 1)	182.29019 (30, 1)	179.81474 (30, 1)
20000.0 /	184.73264 (30, 1)	187.50552 (30, 1)	188.43907 (30, 1)	187.50565 (30, 1)	184.73289 (30, 1)
19000.0 /	189.88832 (30, 1)	193.01007 (30, 1)	194.06206 (30, 1)	193.01021 (30, 1)	189.88860 (30, 1)
18000.0 /	195.29124 (30, 1)	198.82536 (30, 1)	200.01761 (30, 1)	198.82550 (30, 1)	195.29153 (30, 1)
17000.0 /	200.94881 (30, 1)	204.97437 (30, 1)	206.33412 (30, 1)	204.97453 (30, 1)	200.94913 (30, 1)
16000.0 /	206.86443 (30, 1)	211.48097 (30, 1)	213.04266 (30, 1)	211.48116 (30, 1)	206.86476 (30, 1)
15000.0 /	213.03496 (30, 1)	218.36932 (30, 1)	220.17703 (30, 1)	218.36952 (30, 1)	213.03534 (30, 1)
14000.0 /	217.81326 (30, 1)	223.98299 (30, 1)	226.07822 (30, 1)	223.98318 (30, 1)	217.81366 (30, 1)
13000.0 /	222.37727 (30, 1)	229.57025 (30, 1)	232.01933 (30, 1)	229.57048 (30, 1)	222.37770 (30, 1)
12000.0 /	226.58046 (30, 1)	235.04187 (30, 1)	237.93207 (30, 1)	235.04211 (30, 1)	226.58093 (30, 1)
11000.0 /	230.20509 (30, 1)	240.25949 (30, 1)	243.70769 (30, 1)	240.25975 (30, 1)	230.20560 (30, 1)
10000.0 /	232.93936 (30, 1)	245.02405 (30, 1)	249.19012 (30, 1)	245.02434 (30, 1)	232.93991 (30, 1)
9000.0 /	234.33112 (30, 1)	249.04694 (30, 1)	254.15489 (30, 1)	249.04726 (30, 1)	234.33171 (30, 1)
8000.0 /	233.71556 (30, 1)	251.90617 (30, 1)	258.27917 (30, 1)	251.90652 (30, 1)	233.71622 (30, 1)
7000.0 /	230.09605 (30, 1)	252.97401 (30, 1)	261.09488 (30, 1)	252.97440 (30, 1)	230.09676 (30, 1)
6000.0 /	232.97440 (25, 1)	247.17264 (30, 1)	257.62015 (30, 1)	247.17307 (30, 1)	232.97476 (25, 1)
5000.0 /	231.94708 (25, 1)	250.40125 (25, 1)	256.87341 (25, 1)	250.40147 (25, 1)	231.94749 (25, 1)
4000.0 /	220.29990 (25, 1)	246.68840 (25, 1)	256.16928 (25, 1)	246.68866 (25, 1)	220.30037 (25, 1)
3000.0 /	183.13791 (26, 1)	221.40218 (26, 1)	251.43683 (32, 1)	221.40247 (26, 1)	183.13840 (26, 1)
2000.0 /	143.40630 (21, 1)	189.01205 (27, 1)	224.65239 (33, 1)	189.01239 (27, 1)	143.40660 (21, 1)
1000.0 /	155.52563 (2, 1)	275.03082 (23, 1)	358.62192 (23, 1)	275.03134 (23, 1)	155.52570 (2, 1)

1

HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 7,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	19.08760	(1, 1)
0.0	50.0	23803.62109	(24, 1)	50.0	50.0	19.08762	(1, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	4.25349	(1, 1)
-50.0	100.0	179.79277	(3, 1)	0.0	100.0	8924.80957	(24, 1)
50.0	100.0	179.97409	(3, 1)	100.0	100.0	4.25563	(1, 1)
-100.0	200.0	85.38639	(3, 1)	-50.0	200.0	359.67493	(8, 1)
0.0	200.0	3190.05396	(24, 1)	50.0	200.0	359.67542	(8, 1)
100.0	200.0	85.40015	(3, 1)	-100.0	300.0	155.86554	(3, 1)
-50.0	300.0	389.43430	(15, 1)	0.0	300.0	1714.13672	(24, 1)
50.0	300.0	389.43512	(15, 1)	100.0	300.0	155.86566	(3, 1)
-100.0	400.0	176.89168	(3, 1)	-50.0	400.0	384.80988	(15, 1)
0.0	400.0	1093.64294	(24, 1)	50.0	400.0	384.81052	(15, 1)
100.0	400.0	176.89183	(3, 1)	-100.0	500.0	167.99527	(3, 1)
-50.0	500.0	336.03433	(15, 1)	0.0	500.0	770.26819	(24, 1)
50.0	500.0	336.03476	(15, 1)	100.0	500.0	167.99539	(3, 1)
-100.0	600.0	150.96660	(2, 1)	-50.0	600.0	296.15723	(24, 1)
0.0	600.0	579.20898	(24, 1)	50.0	600.0	296.15808	(24, 1)
100.0	600.0	150.96666	(2, 1)	-100.0	700.0	175.59790	(2, 1)
-50.0	700.0	298.63620	(24, 1)	0.0	700.0	496.56900	(24, 1)
50.0	700.0	298.63696	(24, 1)	100.0	700.0	175.59798	(2, 1)
-100.0	800.0	175.65027	(2, 1)	-50.0	800.0	299.18204	(23, 1)
0.0	800.0	444.50595	(23, 1)	50.0	800.0	299.18268	(23, 1)
100.0	800.0	175.65034	(2, 1)	-100.0	900.0	165.95425	(2, 1)
-50.0	900.0	289.89764	(23, 1)	0.0	900.0	399.48260	(23, 1)
50.0	900.0	289.89825	(23, 1)	100.0	900.0	165.95432	(2, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 7,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 338.22894 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	113.93126 (31, 1)	115.08475 (31, 1)	115.47186 (31, 1)	115.08482 (31, 1)	113.93139 (31, 1)
24000.0 /	117.60611 (31, 1)	118.88582 (31, 1)	119.31550 (31, 1)	118.88589 (31, 1)	117.60625 (31, 1)
23000.0 /	121.51060 (31, 1)	122.93609 (31, 1)	123.41499 (31, 1)	122.93616 (31, 1)	121.51075 (31, 1)
22000.0 /	125.66561 (31, 1)	127.26048 (31, 1)	127.79662 (31, 1)	127.26057 (31, 1)	125.66577 (31, 1)
21000.0 /	130.09425 (31, 1)	131.88716 (31, 1)	132.49030 (31, 1)	131.88724 (31, 1)	130.09444 (31, 1)
20000.0 /	134.82224 (31, 1)	136.84822 (31, 1)	137.53032 (31, 1)	136.84831 (31, 1)	134.82242 (31, 1)
19000.0 /	139.87785 (31, 1)	142.18025 (31, 1)	142.95615 (31, 1)	142.18034 (31, 1)	139.87805 (31, 1)
18000.0 /	145.29233 (31, 1)	147.92517 (31, 1)	148.81339 (31, 1)	147.92529 (31, 1)	145.29254 (31, 1)
17000.0 /	151.09969 (31, 1)	154.13116 (31, 1)	155.15515 (31, 1)	154.13129 (31, 1)	151.09993 (31, 1)
16000.0 /	157.33649 (31, 1)	160.85358 (31, 1)	162.04338 (31, 1)	160.85371 (31, 1)	157.33675 (31, 1)
15000.0 /	164.04103 (31, 1)	168.15627 (31, 1)	169.55087 (31, 1)	168.15642 (31, 1)	164.04131 (31, 1)
14000.0 /	170.58876 (31, 1)	175.43103 (31, 1)	177.07553 (31, 1)	175.43120 (31, 1)	170.58907 (31, 1)
13000.0 /	177.41782 (31, 1)	183.17041 (31, 1)	185.12917 (31, 1)	183.17059 (31, 1)	177.41815 (31, 1)
12000.0 /	184.47374 (31, 1)	191.38194 (31, 1)	193.74176 (31, 1)	191.38214 (31, 1)	184.47412 (31, 1)
11000.0 /	191.65013 (31, 1)	200.04794 (31, 1)	202.92828 (31, 1)	200.04816 (31, 1)	191.65056 (31, 1)
10000.0 /	201.67258 (25, 1)	209.11127 (31, 1)	212.68030 (31, 1)	209.11153 (31, 1)	201.67279 (25, 1)
9000.0 /	211.34639 (25, 1)	218.44504 (31, 1)	222.94600 (31, 1)	218.44533 (31, 1)	211.34663 (25, 1)
8000.0 /	220.50110 (25, 1)	227.98962 (25, 1)	233.59651 (31, 1)	227.98978 (25, 1)	220.50137 (25, 1)
7000.0 /	228.23656 (25, 1)	238.09695 (25, 1)	244.36385 (31, 1)	238.09712 (25, 1)	228.23688 (25, 1)
6000.0 /	218.30457 (30, 1)	246.27774 (25, 1)	251.64487 (31, 1)	246.27792 (25, 1)	218.30533 (30, 1)
5000.0 /	203.22719 (31, 1)	241.57275 (31, 1)	255.89999 (31, 1)	241.57324 (31, 1)	203.22801 (31, 1)
4000.0 /	201.70209 (26, 1)	233.78517 (31, 1)	254.56859 (31, 1)	233.78574 (31, 1)	201.70251 (26, 1)
3000.0 /	181.86279 (25, 1)	219.03214 (25, 1)	250.90237 (33, 1)	219.03242 (25, 1)	181.86325 (25, 1)
2000.0 /	140.06279 (22, 1)	187.02499 (28, 1)	215.06708 (27, 1)	187.02534 (28, 1)	140.06310 (22, 1)
1000.0 /	150.22336 (14, 1)	260.63022 (22, 1)	338.22894 (22, 1)	260.63071 (22, 1)	150.22359 (14, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 7,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	13.06056	(4, 1)
0.0	50.0	15635.97070	(23, 1)	50.0	50.0	13.06057	(4, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	2.43481	(3, 1)
-50.0	100.0	95.35463	(8, 1)	0.0	100.0	6573.44775	(23, 1)
50.0	100.0	95.35485	(8, 1)	100.0	100.0	2.43727	(3, 1)
-100.0	200.0	39.79006	(2, 1)	-50.0	200.0	314.45505	(3, 1)
0.0	200.0	2613.00464	(23, 1)	50.0	200.0	314.45526	(3, 1)
100.0	200.0	39.79859	(2, 1)	-100.0	300.0	100.78796	(8, 1)
-50.0	300.0	357.17493	(8, 1)	0.0	300.0	1486.01074	(23, 1)
50.0	300.0	357.17523	(8, 1)	100.0	300.0	100.78812	(8, 1)
-100.0	400.0	139.83237	(8, 1)	-50.0	400.0	337.76349	(14, 1)
0.0	400.0	974.27032	(23, 1)	50.0	400.0	337.76404	(14, 1)
100.0	400.0	139.83258	(8, 1)	-100.0	500.0	149.57866	(8, 1)
-50.0	500.0	302.43661	(24, 1)	0.0	500.0	700.22479	(23, 1)
50.0	500.0	302.43756	(24, 1)	100.0	500.0	149.57884	(8, 1)
-100.0	600.0	146.25346	(3, 1)	-50.0	600.0	287.84225	(15, 1)
0.0	600.0	535.80670	(23, 1)	50.0	600.0	287.84262	(15, 1)
100.0	600.0	146.25354	(3, 1)	-100.0	700.0	151.72874	(8, 1)
-50.0	700.0	297.53149	(23, 1)	0.0	700.0	491.69421	(23, 1)
50.0	700.0	297.53220	(23, 1)	100.0	700.0	151.72888	(8, 1)
-100.0	800.0	149.79724	(14, 1)	-50.0	800.0	286.19766	(24, 1)
0.0	800.0	426.84033	(24, 1)	50.0	800.0	286.19830	(24, 1)
100.0	800.0	149.79752	(14, 1)	-100.0	900.0	152.87427	(14, 1)
-50.0	900.0	267.24332	(24, 1)	0.0	900.0	369.18591	(24, 1)
50.0	900.0	267.24387	(24, 1)	100.0	900.0	152.87453	(14, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 8,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 144.36571 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS / (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	4.26488 (30, 1)	4.30811 (30, 1)	4.32262 (30, 1)	4.30811 (30, 1)	4.26488 (30, 1)
24000.0 /	4.46967 (30, 1)	4.51837 (30, 1)	4.53473 (30, 1)	4.51838 (30, 1)	4.46968 (30, 1)
23000.0 /	4.69323 (30, 1)	4.74837 (30, 1)	4.76689 (30, 1)	4.74837 (30, 1)	4.69324 (30, 1)
22000.0 /	4.93813 (30, 1)	5.00090 (30, 1)	5.02200 (30, 1)	5.00090 (30, 1)	4.93814 (30, 1)
21000.0 /	5.20744 (30, 1)	5.27933 (30, 1)	5.30351 (30, 1)	5.27933 (30, 1)	5.20745 (30, 1)
20000.0 /	5.50483 (30, 1)	5.58771 (30, 1)	5.61361 (30, 1)	5.58771 (30, 1)	5.50484 (30, 1)
19000.0 /	5.83472 (30, 1)	5.93095 (30, 1)	5.96338 (30, 1)	5.93095 (30, 1)	5.83473 (30, 1)
18000.0 /	6.20245 (30, 1)	6.31508 (30, 1)	6.35309 (30, 1)	6.31509 (30, 1)	6.20246 (30, 1)
17000.0 /	6.61457 (30, 1)	6.74760 (30, 1)	6.79253 (30, 1)	6.74760 (30, 1)	6.61458 (30, 1)
16000.0 /	7.07918 (30, 1)	7.23786 (30, 1)	7.29154 (30, 1)	7.23786 (30, 1)	7.07920 (30, 1)
15000.0 /	7.60637 (30, 1)	7.79776 (30, 1)	7.86263 (30, 1)	7.79777 (30, 1)	7.60638 (30, 1)
14000.0 /	8.25150 (30, 1)	8.48653 (30, 1)	8.56635 (30, 1)	8.48653 (30, 1)	8.25152 (30, 1)
13000.0 /	8.99831 (30, 1)	9.29121 (30, 1)	9.39095 (30, 1)	9.29122 (30, 1)	8.99833 (30, 1)
12000.0 /	9.87028 (30, 1)	10.24156 (30, 1)	10.36841 (30, 1)	10.24158 (30, 1)	9.87030 (30, 1)
11000.0 /	10.89828 (30, 1)	11.37835 (30, 1)	11.54303 (30, 1)	11.37836 (30, 1)	10.89830 (30, 1)
10000.0 /	12.12304 (30, 1)	12.75837 (30, 1)	12.97747 (30, 1)	12.75839 (30, 1)	12.12307 (30, 1)
9000.0 /	13.59842 (30, 1)	14.46294 (30, 1)	14.76317 (30, 1)	14.46296 (30, 1)	13.59846 (30, 1)
8000.0 /	15.39529 (30, 1)	16.61193 (30, 1)	17.03849 (30, 1)	16.61196 (30, 1)	15.39533 (30, 1)
7000.0 /	17.60355 (30, 1)	19.38829 (30, 1)	20.02256 (30, 1)	19.38832 (30, 1)	17.60361 (30, 1)
6000.0 /	20.43542 (30, 1)	23.20893 (30, 1)	24.21471 (30, 1)	23.20897 (30, 1)	20.43549 (30, 1)
5000.0 /	23.87716 (30, 1)	28.48631 (30, 1)	30.21256 (30, 1)	28.48636 (30, 1)	23.87726 (30, 1)
4000.0 /	27.70182 (30, 1)	36.05574 (30, 1)	39.36681 (30, 1)	36.05583 (30, 1)	27.70195 (30, 1)
3000.0 /	30.32046 (30, 1)	47.19209 (30, 1)	54.69078 (30, 1)	47.19224 (30, 1)	30.32064 (30, 1)
2000.0 /	25.25027 (25, 1)	62.45685 (30, 1)	84.83991 (30, 1)	62.45712 (30, 1)	25.25036 (25, 1)
1000.0 /	26.08921 (16, 1)	58.44471 (16, 1)	144.36571 (30, 1)	58.44482 (16, 1)	26.08930 (16, 1)

1

HIGH
1-HR
SGROUP# 8

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 8,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	1.69716	(1, 1)
0.0	50.0	1081.26746	(20, 1)	50.0	50.0	1.69716	(1, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.36300	(1, 1)
-50.0	100.0	62.73571	(1, 1)	0.0	100.0	847.36377	(18, 1)
50.0	100.0	62.72558	(1, 1)	100.0	100.0	0.36294	(1, 1)
-100.0	200.0	15.47067	(1, 1)	-50.0	200.0	80.70963	(4, 1)
0.0	200.0	531.99152	(16, 1)	50.0	200.0	80.70974	(4, 1)
100.0	200.0	15.46960	(1, 1)	-100.0	300.0	19.45254	(1, 1)
-50.0	300.0	75.64988	(9, 1)	0.0	300.0	403.93481	(16, 1)
50.0	300.0	75.65005	(9, 1)	100.0	300.0	19.45255	(1, 1)
-100.0	400.0	21.39896	(4, 1)	-50.0	400.0	73.64938	(9, 1)
0.0	400.0	292.79071	(16, 1)	50.0	400.0	73.64951	(9, 1)
100.0	400.0	21.39900	(4, 1)	-100.0	500.0	19.96834	(4, 1)
-50.0	500.0	84.38384	(16, 1)	0.0	500.0	218.36784	(16, 1)
50.0	500.0	84.38411	(16, 1)	100.0	500.0	19.96837	(4, 1)
-100.0	600.0	20.96262	(9, 1)	-50.0	600.0	85.14885	(16, 1)
0.0	600.0	168.40643	(16, 1)	50.0	600.0	85.14910	(16, 1)
100.0	600.0	20.96268	(9, 1)	-100.0	700.0	21.43267	(9, 1)
-50.0	700.0	79.93103	(16, 1)	0.0	700.0	153.87383	(30, 1)
50.0	700.0	79.93123	(16, 1)	100.0	700.0	21.43272	(9, 1)
-100.0	800.0	21.66472	(16, 1)	-50.0	800.0	72.72780	(16, 1)
0.0	800.0	153.42918	(30, 1)	50.0	800.0	72.72796	(16, 1)
100.0	800.0	21.66482	(16, 1)	-100.0	900.0	24.58857	(16, 1)
-50.0	900.0	65.32906	(16, 1)	0.0	900.0	149.81947	(30, 1)
50.0	900.0	65.32919	(16, 1)	100.0	900.0	24.58867	(16, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 8,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 97.68606 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS / (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	2.16888 (31, 1)	2.19087 (31, 1)	2.19825 (31, 1)	2.19087 (31, 1)	2.16888 (31, 1)
24000.0 /	2.27406 (31, 1)	2.29884 (31, 1)	2.30716 (31, 1)	2.29884 (31, 1)	2.27406 (31, 1)
23000.0 /	2.38896 (31, 1)	2.41703 (31, 1)	2.42646 (31, 1)	2.41703 (31, 1)	2.38897 (31, 1)
22000.0 /	2.51494 (31, 1)	2.54690 (31, 1)	2.55765 (31, 1)	2.54690 (31, 1)	2.51494 (31, 1)
21000.0 /	2.65359 (31, 1)	2.69022 (31, 1)	2.70254 (31, 1)	2.69022 (31, 1)	2.65359 (31, 1)
20000.0 /	2.80683 (31, 1)	2.84909 (31, 1)	2.86332 (31, 1)	2.84909 (31, 1)	2.80684 (31, 1)
19000.0 /	2.97700 (31, 1)	3.02610 (31, 1)	3.04265 (31, 1)	3.02611 (31, 1)	2.97701 (31, 1)
18000.0 /	3.16690 (31, 1)	3.22442 (31, 1)	3.24382 (31, 1)	3.22442 (31, 1)	3.16691 (31, 1)
17000.0 /	3.38000 (31, 1)	3.44797 (31, 1)	3.47094 (31, 1)	3.44798 (31, 1)	3.38000 (31, 1)
16000.0 /	3.62055 (31, 1)	3.70171 (31, 1)	3.72916 (31, 1)	3.70171 (31, 1)	3.62056 (31, 1)
15000.0 /	3.89392 (31, 1)	3.99190 (31, 1)	4.02511 (31, 1)	3.99191 (31, 1)	3.89392 (31, 1)
14000.0 /	4.22997 (31, 1)	4.35046 (31, 1)	4.39138 (31, 1)	4.35046 (31, 1)	4.22998 (31, 1)
13000.0 /	4.62000 (31, 1)	4.77040 (31, 1)	4.82161 (31, 1)	4.77040 (31, 1)	4.62001 (31, 1)
12000.0 /	5.07678 (31, 1)	5.26778 (31, 1)	5.33302 (31, 1)	5.26778 (31, 1)	5.07679 (31, 1)
11000.0 /	5.61723 (31, 1)	5.86469 (31, 1)	5.94958 (31, 1)	5.86470 (31, 1)	5.61724 (31, 1)
10000.0 /	6.26385 (31, 1)	6.59217 (31, 1)	6.70539 (31, 1)	6.59218 (31, 1)	6.26387 (31, 1)
9000.0 /	7.04685 (31, 1)	7.49493 (31, 1)	7.65054 (31, 1)	7.49494 (31, 1)	7.04687 (31, 1)
8000.0 /	8.00670 (31, 1)	8.63958 (31, 1)	8.86147 (31, 1)	8.63959 (31, 1)	8.00673 (31, 1)
7000.0 /	9.19641 (31, 1)	10.12903 (31, 1)	10.46048 (31, 1)	10.12905 (31, 1)	9.19643 (31, 1)
6000.0 /	10.74603 (31, 1)	12.20501 (31, 1)	12.73410 (31, 1)	12.20503 (31, 1)	10.74607 (31, 1)
5000.0 /	12.66892 (31, 1)	15.11570 (31, 1)	16.03214 (31, 1)	15.11574 (31, 1)	12.66897 (31, 1)
4000.0 /	15.35491 (25, 1)	19.38506 (31, 1)	21.16651 (31, 1)	19.38511 (31, 1)	15.35495 (25, 1)
3000.0 /	20.18430 (25, 1)	25.91082 (31, 1)	30.03313 (31, 1)	25.91090 (31, 1)	20.18435 (25, 1)
2000.0 /	24.91848 (30, 1)	37.96328 (25, 1)	48.87006 (31, 1)	37.96335 (25, 1)	24.91870 (30, 1)
1000.0 /	17.47750 (9, 1)	56.47611 (25, 1)	97.68606 (31, 1)	56.47630 (25, 1)	17.47753 (9, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 8,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	1.46318	(2, 1)
0.0	50.0	1024.77454	(11, 1)	50.0	50.0	1.46319	(2, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.21305	(2, 1)
-50.0	100.0	38.16674	(2, 1)	0.0	100.0	830.70599	(17, 1)
50.0	100.0	38.15444	(2, 1)	100.0	100.0	0.21298	(2, 1)
-100.0	200.0	8.09154	(2, 1)	-50.0	200.0	69.17734	(1, 1)
0.0	200.0	487.74850	(17, 1)	50.0	200.0	69.17739	(1, 1)
100.0	200.0	8.09091	(2, 1)	-100.0	300.0	17.01332	(4, 1)
-50.0	300.0	67.11979	(4, 1)	0.0	300.0	278.39282	(17, 1)
50.0	300.0	67.11986	(4, 1)	100.0	300.0	17.01335	(4, 1)
-100.0	400.0	15.03552	(1, 1)	-50.0	400.0	70.24625	(16, 1)
0.0	400.0	179.95871	(17, 1)	50.0	400.0	70.24652	(16, 1)
100.0	400.0	15.03554	(1, 1)	-100.0	500.0	17.93317	(9, 1)
-50.0	500.0	62.39757	(9, 1)	0.0	500.0	127.57413	(30, 1)
50.0	500.0	62.39765	(9, 1)	100.0	500.0	17.93323	(9, 1)
-100.0	600.0	17.15730	(4, 1)	-50.0	600.0	51.24902	(9, 1)
0.0	600.0	145.31990	(30, 1)	50.0	600.0	51.24908	(9, 1)
100.0	600.0	17.15732	(4, 1)	-100.0	700.0	17.05485	(16, 1)
-50.0	700.0	46.22109	(25, 1)	0.0	700.0	133.76369	(16, 1)
50.0	700.0	46.22129	(25, 1)	100.0	700.0	17.05494	(16, 1)
-100.0	800.0	20.55738	(9, 1)	-50.0	800.0	52.43574	(25, 1)
0.0	800.0	112.55545	(31, 1)	50.0	800.0	52.43595	(25, 1)
100.0	800.0	20.55742	(9, 1)	-100.0	900.0	19.10337	(9, 1)
-50.0	900.0	55.56909	(25, 1)	0.0	900.0	105.15102	(31, 1)
50.0	900.0	55.56929	(25, 1)	100.0	900.0	19.10340	(9, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 9,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 38.41808 AND OCCURRED AT (0.0, 2000.0) *

Y-AXIS / (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	3.82217 (30, 1)	3.86091 (30, 1)	3.87391 (30, 1)	3.86091 (30, 1)	3.82218 (30, 1)
24000.0 /	3.99422 (30, 1)	4.03772 (30, 1)	4.05233 (30, 1)	4.03773 (30, 1)	3.99422 (30, 1)
23000.0 /	4.18112 (30, 1)	4.23022 (30, 1)	4.24672 (30, 1)	4.23023 (30, 1)	4.18112 (30, 1)
22000.0 /	4.38481 (30, 1)	4.44053 (30, 1)	4.45926 (30, 1)	4.44053 (30, 1)	4.38482 (30, 1)
21000.0 /	4.60756 (30, 1)	4.67115 (30, 1)	4.69254 (30, 1)	4.67115 (30, 1)	4.60757 (30, 1)
20000.0 /	4.85207 (30, 1)	4.92509 (30, 1)	4.94967 (30, 1)	4.92509 (30, 1)	4.85207 (30, 1)
19000.0 /	5.12151 (30, 1)	5.20595 (30, 1)	5.23441 (30, 1)	5.20596 (30, 1)	5.12152 (30, 1)
18000.0 /	5.41973 (30, 1)	5.51812 (30, 1)	5.55132 (30, 1)	5.51813 (30, 1)	5.41974 (30, 1)
17000.0 /	5.75135 (30, 1)	5.86697 (30, 1)	5.90602 (30, 1)	5.86697 (30, 1)	5.75136 (30, 1)
16000.0 /	6.12197 (30, 1)	6.25913 (30, 1)	6.30553 (30, 1)	6.25913 (30, 1)	6.12198 (30, 1)
15000.0 /	6.53848 (30, 1)	6.70292 (30, 1)	6.75865 (30, 1)	6.70292 (30, 1)	6.53849 (30, 1)
14000.0 /	7.03286 (30, 1)	7.23305 (30, 1)	7.30105 (30, 1)	7.23306 (30, 1)	7.03287 (30, 1)
13000.0 /	7.59556 (30, 1)	7.84263 (30, 1)	7.92676 (30, 1)	7.84264 (30, 1)	7.59557 (30, 1)
12000.0 /	8.23987 (30, 1)	8.54959 (30, 1)	8.65540 (30, 1)	8.54960 (30, 1)	8.23989 (30, 1)
11000.0 /	8.98228 (30, 1)	9.37759 (30, 1)	9.51320 (30, 1)	9.37760 (30, 1)	8.98230 (30, 1)
10000.0 /	9.84288 (30, 1)	10.35816 (30, 1)	10.53585 (30, 1)	10.35817 (30, 1)	9.84290 (30, 1)
9000.0 /	10.84537 (30, 1)	11.53396 (30, 1)	11.77308 (30, 1)	11.53398 (30, 1)	10.84540 (30, 1)
8000.0 /	12.01563 (30, 1)	12.96365 (30, 1)	13.29600 (30, 1)	12.96367 (30, 1)	12.01566 (30, 1)
7000.0 /	13.37552 (30, 1)	14.72879 (30, 1)	15.20965 (30, 1)	14.72881 (30, 1)	13.37556 (30, 1)
6000.0 /	14.93963 (30, 1)	16.96163 (30, 1)	17.69472 (30, 1)	16.96166 (30, 1)	14.93969 (30, 1)
5000.0 /	16.57569 (30, 1)	19.76279 (30, 1)	20.95596 (30, 1)	19.76283 (30, 1)	16.57575 (30, 1)
4000.0 /	17.87533 (30, 1)	23.23296 (30, 1)	25.35450 (30, 1)	23.23302 (30, 1)	17.87542 (30, 1)
3000.0 /	17.51343 (30, 1)	27.15039 (30, 1)	31.42279 (30, 1)	27.15047 (30, 1)	17.51353 (30, 1)
2000.0 /	15.00032 (25, 1)	28.44312 (30, 1)	38.41808 (30, 1)	28.44324 (30, 1)	15.00038 (25, 1)
1000.0 /	13.48790 (9, 1)	23.96134 (17, 1)	35.07422 (30, 1)	23.96139 (17, 1)	13.48792 (9, 1)

1

HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 9,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.71318	(3, 1)
0.0	50.0	798.00861	(22, 1)	50.0	50.0	0.71318	(3, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.11232	(2, 1)
-50.0	100.0	17.55355	(3, 1)	0.0	100.0	284.13705	(22, 1)
50.0	100.0	17.55308	(3, 1)	100.0	100.0	0.11236	(2, 1)
-100.0	200.0	6.92761	(1, 1)	-50.0	200.0	28.66905	(1, 1)
0.0	200.0	149.66177	(20, 1)	50.0	200.0	28.66907	(1, 1)
100.0	200.0	6.92800	(1, 1)	-100.0	300.0	13.60541	(1, 1)
-50.0	300.0	27.63082	(1, 1)	0.0	300.0	102.82302	(19, 1)
50.0	300.0	27.63083	(1, 1)	100.0	300.0	13.60543	(1, 1)
-100.0	400.0	12.70827	(4, 1)	-50.0	400.0	28.26405	(10, 1)
0.0	400.0	79.33826	(18, 1)	50.0	400.0	28.26409	(10, 1)
100.0	400.0	12.70829	(4, 1)	-100.0	500.0	14.24689	(4, 1)
-50.0	500.0	27.13588	(9, 1)	0.0	500.0	62.65234	(18, 1)
50.0	500.0	27.13592	(9, 1)	100.0	500.0	14.24691	(4, 1)
-100.0	600.0	13.58462	(4, 1)	-50.0	600.0	27.98912	(17, 1)
0.0	600.0	54.64991	(17, 1)	50.0	600.0	27.98920	(17, 1)
100.0	600.0	13.58463	(4, 1)	-100.0	700.0	13.43509	(9, 1)
-50.0	700.0	28.52324	(17, 1)	0.0	700.0	47.38340	(17, 1)
50.0	700.0	28.52332	(17, 1)	100.0	700.0	13.43512	(9, 1)
-100.0	800.0	14.10810	(9, 1)	-50.0	800.0	27.55054	(17, 1)
0.0	800.0	41.06540	(17, 1)	50.0	800.0	27.55060	(17, 1)
100.0	800.0	14.10812	(9, 1)	-100.0	900.0	14.01627	(9, 1)
-50.0	900.0	25.87963	(17, 1)	0.0	900.0	35.73804	(17, 1)
50.0	900.0	25.87968	(17, 1)	100.0	900.0	14.01629	(9, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 9,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 34.39856 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS / (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	2.02547 (31, 1)	2.04600 (31, 1)	2.05289 (31, 1)	2.04600 (31, 1)	2.02547 (31, 1)
24000.0 /	2.11985 (31, 1)	2.14294 (31, 1)	2.15069 (31, 1)	2.14294 (31, 1)	2.11985 (31, 1)
23000.0 /	2.22263 (31, 1)	2.24874 (31, 1)	2.25751 (31, 1)	2.24874 (31, 1)	2.22264 (31, 1)
22000.0 /	2.33496 (31, 1)	2.36464 (31, 1)	2.37461 (31, 1)	2.36464 (31, 1)	2.33496 (31, 1)
21000.0 /	2.45816 (31, 1)	2.49209 (31, 1)	2.50351 (31, 1)	2.49209 (31, 1)	2.45817 (31, 1)
20000.0 /	2.59383 (31, 1)	2.63287 (31, 1)	2.64601 (31, 1)	2.63287 (31, 1)	2.59383 (31, 1)
19000.0 /	2.74385 (31, 1)	2.78909 (31, 1)	2.80434 (31, 1)	2.78910 (31, 1)	2.74385 (31, 1)
18000.0 /	2.91052 (31, 1)	2.96337 (31, 1)	2.98119 (31, 1)	2.96337 (31, 1)	2.91052 (31, 1)
17000.0 /	3.09662 (31, 1)	3.15889 (31, 1)	3.17992 (31, 1)	3.15889 (31, 1)	3.09663 (31, 1)
16000.0 /	3.30558 (31, 1)	3.37965 (31, 1)	3.40471 (31, 1)	3.37965 (31, 1)	3.30558 (31, 1)
15000.0 /	3.54160 (31, 1)	3.63069 (31, 1)	3.66088 (31, 1)	3.63069 (31, 1)	3.54160 (31, 1)
14000.0 /	3.82640 (31, 1)	3.93536 (31, 1)	3.97236 (31, 1)	3.93536 (31, 1)	3.82641 (31, 1)
13000.0 /	4.15350 (31, 1)	4.28865 (31, 1)	4.33467 (31, 1)	4.28866 (31, 1)	4.15351 (31, 1)
12000.0 /	4.53194 (31, 1)	4.70235 (31, 1)	4.76057 (31, 1)	4.70235 (31, 1)	4.53195 (31, 1)
11000.0 /	4.97335 (31, 1)	5.19232 (31, 1)	5.26744 (31, 1)	5.19233 (31, 1)	4.97336 (31, 1)
10000.0 /	5.49255 (31, 1)	5.78024 (31, 1)	5.87945 (31, 1)	5.78025 (31, 1)	5.49256 (31, 1)
9000.0 /	6.10829 (31, 1)	6.49637 (31, 1)	6.63114 (31, 1)	6.49638 (31, 1)	6.10831 (31, 1)
8000.0 /	6.84360 (31, 1)	7.38399 (31, 1)	7.57344 (31, 1)	7.38400 (31, 1)	6.84362 (31, 1)
7000.0 /	7.72423 (31, 1)	8.50653 (31, 1)	8.78453 (31, 1)	8.50655 (31, 1)	7.72425 (31, 1)
6000.0 /	8.80001 (31, 1)	9.99269 (31, 1)	10.42515 (31, 1)	9.99270 (31, 1)	8.80004 (31, 1)
5000.0 /	10.02465 (31, 1)	11.95593 (31, 1)	12.67910 (31, 1)	11.95596 (31, 1)	10.02469 (31, 1)
4000.0 /	11.86311 (25, 1)	14.58942 (31, 1)	15.92540 (31, 1)	14.58946 (31, 1)	11.86313 (25, 1)
3000.0 /	14.24586 (25, 1)	18.03831 (31, 1)	20.89056 (31, 1)	18.03836 (31, 1)	14.24590 (25, 1)
2000.0 /	13.41865 (16, 1)	22.44469 (25, 1)	28.65172 (31, 1)	22.44473 (25, 1)	13.41868 (16, 1)
1000.0 /	10.93728 (16, 1)	23.83290 (16, 1)	34.39856 (31, 1)	23.83295 (16, 1)	10.93731 (16, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 9,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.59569	(2, 1)
0.0	50.0	778.54333	(23, 1)	50.0	50.0	0.59569	(2, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.10831	(3, 1)
-50.0	100.0	15.92525	(2, 1)	0.0	100.0	275.35379	(21, 1)
50.0	100.0	15.93027	(2, 1)	100.0	100.0	0.10831	(3, 1)
-100.0	200.0	6.48775	(2, 1)	-50.0	200.0	28.51545	(2, 1)
0.0	200.0	139.40628	(19, 1)	50.0	200.0	28.51547	(2, 1)
100.0	200.0	6.48750	(2, 1)	-100.0	300.0	9.03829	(2, 1)
-50.0	300.0	27.58457	(5, 1)	0.0	300.0	99.11619	(18, 1)
50.0	300.0	27.58460	(5, 1)	100.0	300.0	9.03829	(2, 1)
-100.0	400.0	12.70024	(1, 1)	-50.0	400.0	28.06153	(4, 1)
0.0	400.0	73.93089	(19, 1)	50.0	400.0	28.06155	(4, 1)
100.0	400.0	12.70026	(1, 1)	-100.0	500.0	9.41642	(1, 1)
-50.0	500.0	25.99904	(10, 1)	0.0	500.0	62.33314	(17, 1)
50.0	500.0	25.99907	(10, 1)	100.0	500.0	9.41643	(1, 1)
-100.0	600.0	11.58592	(9, 1)	-50.0	600.0	27.43477	(9, 1)
0.0	600.0	50.07859	(18, 1)	50.0	600.0	27.43481	(9, 1)
100.0	600.0	11.58595	(9, 1)	-100.0	700.0	12.14713	(4, 1)
-50.0	700.0	25.90339	(9, 1)	0.0	700.0	40.74039	(18, 1)
50.0	700.0	25.90342	(9, 1)	100.0	700.0	12.14714	(4, 1)
-100.0	800.0	10.59358	(4, 1)	-50.0	800.0	23.67644	(9, 1)
0.0	800.0	33.72989	(18, 1)	50.0	800.0	23.67646	(9, 1)
100.0	800.0	10.59359	(4, 1)	-100.0	900.0	9.82746	(17, 1)
-50.0	900.0	23.24127	(16, 1)	0.0	900.0	33.43531	(31, 1)
50.0	900.0	23.24131	(16, 1)	100.0	900.0	9.82750	(17, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 10, 17, -20,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 4303.68066 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	145.80170 (30, 1)	147.25194 (30, 1)	147.73859 (30, 1)	147.25203 (30, 1)	145.80185 (30, 1)
24000.0 /	152.77008 (30, 1)	154.40207 (30, 1)	154.94995 (30, 1)	154.40216 (30, 1)	152.77025 (30, 1)
23000.0 /	160.37357 (30, 1)	162.21921 (30, 1)	162.83916 (30, 1)	162.21930 (30, 1)	160.37375 (30, 1)
22000.0 /	168.69922 (30, 1)	170.79779 (30, 1)	171.50313 (30, 1)	170.79788 (30, 1)	168.69942 (30, 1)
21000.0 /	177.85031 (30, 1)	180.25056 (30, 1)	181.05788 (30, 1)	180.25069 (30, 1)	177.85054 (30, 1)
20000.0 /	187.95018 (30, 1)	190.71326 (30, 1)	191.64331 (30, 1)	190.71338 (30, 1)	187.95044 (30, 1)
19000.0 /	199.14709 (30, 1)	202.35043 (30, 1)	203.42967 (30, 1)	202.35057 (30, 1)	199.14737 (30, 1)
18000.0 /	211.62088 (30, 1)	215.36383 (30, 1)	216.62619 (30, 1)	215.36398 (30, 1)	211.62119 (30, 1)
17000.0 /	225.59134 (30, 1)	230.00299 (30, 1)	231.49268 (30, 1)	230.00317 (30, 1)	225.59167 (30, 1)
16000.0 /	241.32968 (30, 1)	246.58017 (30, 1)	248.35568 (30, 1)	246.58038 (30, 1)	241.33005 (30, 1)
15000.0 /	258.82147 (30, 1)	265.13019 (30, 1)	267.26715 (30, 1)	265.13037 (30, 1)	258.82190 (30, 1)
14000.0 /	280.24823 (30, 1)	287.96280 (30, 1)	290.58133 (30, 1)	287.96307 (30, 1)	280.24872 (30, 1)
13000.0 /	305.38550 (30, 1)	314.96704 (30, 1)	318.22733 (30, 1)	314.96732 (30, 1)	305.38605 (30, 1)
12000.0 /	334.70117 (30, 1)	346.79907 (30, 1)	350.92822 (30, 1)	346.79938 (30, 1)	334.70181 (30, 1)
11000.0 /	369.22144 (30, 1)	384.79123 (30, 1)	390.12589 (30, 1)	384.79163 (30, 1)	369.22223 (30, 1)
10000.0 /	410.30011 (30, 1)	430.79272 (30, 1)	437.84882 (30, 1)	430.79327 (30, 1)	410.30103 (30, 1)
9000.0 /	459.73535 (30, 1)	487.43634 (30, 1)	497.03635 (30, 1)	487.43689 (30, 1)	459.73642 (30, 1)
8000.0 /	519.91156 (30, 1)	558.58124 (30, 1)	572.10059 (30, 1)	558.58197 (30, 1)	519.91290 (30, 1)
7000.0 /	593.10669 (30, 1)	649.18494 (30, 1)	669.03308 (30, 1)	649.18585 (30, 1)	593.10834 (30, 1)
6000.0 /	685.76465 (30, 1)	771.49194 (30, 1)	802.38855 (30, 1)	771.49316 (30, 1)	685.76678 (30, 1)
5000.0 /	802.01172 (30, 1)	942.05457 (30, 1)	993.97913 (30, 1)	942.05615 (30, 1)	802.01453 (30, 1)
4000.0 /	936.52637 (30, 1)	1184.72998 (30, 1)	1281.32996 (30, 1)	1184.73242 (30, 1)	936.53027 (30, 1)
3000.0 /	1052.58167 (30, 1)	1540.22241 (30, 1)	1748.75623 (30, 1)	1540.22607 (30, 1)	1052.58691 (30, 1)
2000.0 /	1073.47559 (25, 1)	2032.29004 (30, 1)	2600.36133 (30, 1)	2032.29614 (30, 1)	1073.47888 (25, 1)
1000.0 /	1054.34863 (16, 1)	2552.35620 (25, 1)	4303.68066 (30, 1)	2552.36182 (25, 1)	1054.35156 (16, 1)

1

HIGH
1-HR
SGROUP# 1

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 10, 17, -20,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.00000	(0, 0)
0.0	50.0	0.00000	(0, 0)	50.0	50.0	0.00000	(0, 0)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.00000	(0, 0)
-50.0	100.0	188.81361	(1, 1)	0.0	100.0	569.35815	(9, 1)
50.0	100.0	188.81374	(1, 1)	100.0	100.0	0.00000	(0, 0)
-100.0	200.0	101.09175	(1, 1)	-50.0	200.0	558.82184	(4, 1)
0.0	200.0	1576.06042	(9, 1)	50.0	200.0	558.82227	(4, 1)
100.0	200.0	101.09189	(1, 1)	-100.0	300.0	267.54871	(1, 1)
-50.0	300.0	1512.60034	(4, 1)	0.0	300.0	4994.37939	(9, 1)
50.0	300.0	1512.60156	(4, 1)	100.0	300.0	267.54901	(1, 1)
-100.0	400.0	460.73624	(1, 1)	-50.0	400.0	2456.70020	(4, 1)
0.0	400.0	7184.41748	(16, 1)	50.0	400.0	2456.70215	(4, 1)
100.0	400.0	460.73663	(1, 1)	-100.0	500.0	760.89984	(4, 1)
-50.0	500.0	2715.25415	(9, 1)	0.0	500.0	6659.17383	(16, 1)
50.0	500.0	2715.25732	(9, 1)	100.0	500.0	760.90094	(4, 1)
-100.0	600.0	867.04974	(4, 1)	-50.0	600.0	2812.84326	(16, 1)
0.0	600.0	5772.63281	(16, 1)	50.0	600.0	2812.84814	(16, 1)
100.0	600.0	867.05066	(4, 1)	-100.0	700.0	891.82092	(9, 1)
-50.0	700.0	2865.19824	(16, 1)	0.0	700.0	5213.51563	(25, 1)
50.0	700.0	2865.20313	(16, 1)	100.0	700.0	891.82263	(9, 1)
-100.0	800.0	932.25287	(9, 1)	-50.0	800.0	2747.97339	(16, 1)
0.0	800.0	4729.45459	(25, 1)	50.0	800.0	2747.97803	(16, 1)
100.0	800.0	932.25439	(9, 1)	-100.0	900.0	959.98511	(16, 1)
-50.0	900.0	2592.04272	(25, 1)	0.0	900.0	4510.06543	(30, 1)
50.0	900.0	2592.04858	(25, 1)	100.0	900.0	959.98804	(16, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 10, 17, -20,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 3882.50830 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS / (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	72.90085 (31, 1)	73.62597 (31, 1)	73.86929 (31, 1)	73.62601 (31, 1)	72.90092 (31, 1)
24000.0 /	76.38504 (31, 1)	77.20103 (31, 1)	77.47498 (31, 1)	77.20108 (31, 1)	76.38512 (31, 1)
23000.0 /	80.18678 (31, 1)	81.10960 (31, 1)	81.41958 (31, 1)	81.10965 (31, 1)	80.18687 (31, 1)
22000.0 /	84.34961 (31, 1)	85.39890 (31, 1)	85.75156 (31, 1)	85.39894 (31, 1)	84.34971 (31, 1)
21000.0 /	88.92516 (31, 1)	90.12528 (31, 1)	90.52894 (31, 1)	90.12534 (31, 1)	88.92527 (31, 1)
20000.0 /	93.97509 (31, 1)	95.35663 (31, 1)	95.82166 (31, 1)	95.35669 (31, 1)	93.97522 (31, 1)
19000.0 /	99.57355 (31, 1)	101.17522 (31, 1)	101.71484 (31, 1)	101.17529 (31, 1)	99.57368 (31, 1)
18000.0 /	105.81044 (31, 1)	107.68192 (31, 1)	108.31310 (31, 1)	107.68199 (31, 1)	105.81059 (31, 1)
17000.0 /	112.79567 (31, 1)	115.00150 (31, 1)	115.74634 (31, 1)	115.00159 (31, 1)	112.79584 (31, 1)
16000.0 /	120.66484 (31, 1)	123.29008 (31, 1)	124.17784 (31, 1)	123.29019 (31, 1)	120.66502 (31, 1)
15000.0 /	129.41074 (31, 1)	132.56509 (31, 1)	133.63358 (31, 1)	132.56519 (31, 1)	129.41095 (31, 1)
14000.0 /	140.12411 (31, 1)	143.98140 (31, 1)	145.29066 (31, 1)	143.98154 (31, 1)	140.12436 (31, 1)
13000.0 /	152.69275 (31, 1)	157.48352 (31, 1)	159.11366 (31, 1)	157.48366 (31, 1)	152.69302 (31, 1)
12000.0 /	167.35059 (31, 1)	173.39954 (31, 1)	175.46411 (31, 1)	173.39969 (31, 1)	167.35091 (31, 1)
11000.0 /	184.61072 (31, 1)	192.39561 (31, 1)	195.06294 (31, 1)	192.39581 (31, 1)	184.61111 (31, 1)
10000.0 /	205.93005 (25, 1)	215.39636 (31, 1)	218.92441 (31, 1)	215.39664 (31, 1)	205.93027 (25, 1)
9000.0 /	236.08044 (25, 1)	243.71817 (31, 1)	248.51817 (31, 1)	243.71844 (31, 1)	236.08070 (25, 1)
8000.0 /	274.65045 (25, 1)	283.87732 (25, 1)	287.02142 (25, 1)	283.87750 (25, 1)	274.65076 (25, 1)
7000.0 /	325.09607 (25, 1)	338.98563 (25, 1)	343.74628 (25, 1)	338.98584 (25, 1)	325.09647 (25, 1)
6000.0 /	393.03473 (25, 1)	415.23123 (25, 1)	422.90552 (25, 1)	415.23154 (25, 1)	393.03528 (25, 1)
5000.0 /	487.63330 (25, 1)	526.04089 (25, 1)	539.50513 (25, 1)	526.04132 (25, 1)	487.63412 (25, 1)
4000.0 /	621.43561 (25, 1)	695.35999 (25, 1)	721.90997 (25, 1)	695.36066 (25, 1)	621.43683 (25, 1)
3000.0 /	826.27612 (25, 1)	995.75201 (25, 1)	1059.66772 (25, 1)	995.75323 (25, 1)	826.27820 (25, 1)
2000.0 /	972.04761 (30, 1)	1568.67603 (25, 1)	1780.46240 (25, 1)	1568.67847 (25, 1)	972.05359 (30, 1)
1000.0 /	852.57996 (9, 1)	2379.31885 (16, 1)	3882.50830 (25, 1)	2379.32227 (16, 1)	852.58118 (9, 1)

1

2ND HIGH
1-HR
SGROUP# 1

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 10, 17, -20,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.00000	(0, 0)
0.0	50.0	0.00000	(0, 0)	50.0	50.0	0.00000	(0, 0)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.00000	(0, 0)
-50.0	100.0	153.23288	(4, 1)	0.0	100.0	540.79242	(4, 1)
50.0	100.0	153.23306	(4, 1)	100.0	100.0	0.00000	(0, 0)
-100.0	200.0	55.77205	(4, 1)	-50.0	200.0	540.77515	(1, 1)
0.0	200.0	1510.12659	(16, 1)	50.0	200.0	540.77545	(1, 1)
100.0	200.0	55.77215	(4, 1)	-100.0	300.0	203.18681	(4, 1)
-50.0	300.0	1494.78638	(1, 1)	0.0	300.0	4805.32617	(16, 1)
50.0	300.0	1494.78735	(1, 1)	100.0	300.0	203.18707	(4, 1)
-100.0	400.0	446.85397	(4, 1)	-50.0	400.0	2267.81128	(9, 1)
0.0	400.0	6909.72168	(9, 1)	50.0	400.0	2267.81348	(9, 1)
100.0	400.0	446.85461	(4, 1)	-100.0	500.0	651.11304	(1, 1)
-50.0	500.0	2446.76953	(16, 1)	0.0	500.0	6016.16211	(25, 1)
50.0	500.0	2446.77393	(16, 1)	100.0	500.0	651.11365	(1, 1)
-100.0	600.0	744.93378	(9, 1)	-50.0	600.0	2531.25244	(9, 1)
0.0	600.0	5682.04395	(25, 1)	50.0	600.0	2531.25513	(9, 1)
100.0	600.0	744.93530	(9, 1)	-100.0	700.0	802.75714	(4, 1)
-50.0	700.0	2435.70313	(25, 1)	0.0	700.0	4911.27734	(16, 1)
50.0	700.0	2435.70898	(25, 1)	100.0	700.0	802.75793	(4, 1)
-100.0	800.0	812.90027	(16, 1)	-50.0	800.0	2567.41650	(25, 1)
0.0	800.0	4699.97900	(30, 1)	50.0	800.0	2567.42261	(25, 1)
100.0	800.0	812.90283	(16, 1)	-100.0	900.0	908.00000	(9, 1)
-50.0	900.0	2572.75146	(16, 1)	0.0	900.0	4279.76660	(25, 1)
50.0	900.0	2572.75513	(16, 1)	100.0	900.0	908.00134	(9, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 11,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 415.66602 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS / (METERS) /	-100.0	-50.0	X-AXIS (METERS) 0.0	50.0	100.0
25000.0 /	4.90308 (30, 1)	4.95278 (30, 1)	4.96946 (30, 1)	4.95279 (30, 1)	4.90308 (30, 1)
24000.0 /	5.14542 (30, 1)	5.20148 (30, 1)	5.22031 (30, 1)	5.20149 (30, 1)	5.14542 (30, 1)
23000.0 /	5.41054 (30, 1)	5.47410 (30, 1)	5.49546 (30, 1)	5.47411 (30, 1)	5.41054 (30, 1)
22000.0 /	5.70166 (30, 1)	5.77414 (30, 1)	5.79850 (30, 1)	5.77414 (30, 1)	5.70166 (30, 1)
21000.0 /	6.02262 (30, 1)	6.10576 (30, 1)	6.13373 (30, 1)	6.10577 (30, 1)	6.02262 (30, 1)
20000.0 /	6.37802 (30, 1)	6.47405 (30, 1)	6.50638 (30, 1)	6.47405 (30, 1)	6.37803 (30, 1)
19000.0 /	6.77345 (30, 1)	6.88517 (30, 1)	6.92283 (30, 1)	6.88518 (30, 1)	6.77346 (30, 1)
18000.0 /	7.21569 (30, 1)	7.34675 (30, 1)	7.39096 (30, 1)	7.34676 (30, 1)	7.21570 (30, 1)
17000.0 /	7.71313 (30, 1)	7.86827 (30, 1)	7.92068 (30, 1)	7.86828 (30, 1)	7.71314 (30, 1)
16000.0 /	8.27616 (30, 1)	8.46169 (30, 1)	8.52446 (30, 1)	8.46170 (30, 1)	8.27618 (30, 1)
15000.0 /	8.91787 (30, 1)	9.14231 (30, 1)	9.21837 (30, 1)	9.14231 (30, 1)	8.91789 (30, 1)
14000.0 /	9.71359 (30, 1)	9.99031 (30, 1)	10.08429 (30, 1)	9.99032 (30, 1)	9.71360 (30, 1)
13000.0 /	10.64184 (30, 1)	10.98832 (30, 1)	11.10631 (30, 1)	10.98833 (30, 1)	10.64187 (30, 1)
12000.0 /	11.73535 (30, 1)	12.17692 (30, 1)	12.32777 (30, 1)	12.17693 (30, 1)	11.73538 (30, 1)
11000.0 /	13.03809 (30, 1)	13.61259 (30, 1)	13.80967 (30, 1)	13.61261 (30, 1)	13.03812 (30, 1)
10000.0 /	14.60965 (30, 1)	15.37559 (30, 1)	15.63973 (30, 1)	15.37561 (30, 1)	14.60969 (30, 1)
9000.0 /	16.53186 (30, 1)	17.58334 (30, 1)	17.94850 (30, 1)	17.58337 (30, 1)	16.53190 (30, 1)
8000.0 /	18.91805 (30, 1)	20.41393 (30, 1)	20.93840 (30, 1)	20.41395 (30, 1)	18.91810 (30, 1)
7000.0 /	21.92449 (30, 1)	24.14891 (30, 1)	24.93946 (30, 1)	24.14895 (30, 1)	21.92456 (30, 1)
6000.0 /	25.95710 (30, 1)	29.48340 (30, 1)	30.76227 (30, 1)	29.48346 (30, 1)	25.95719 (30, 1)
5000.0 /	31.15931 (30, 1)	37.18238 (30, 1)	39.43852 (30, 1)	37.18246 (30, 1)	31.15944 (30, 1)
4000.0 /	37.60746 (30, 1)	48.97274 (30, 1)	53.47879 (30, 1)	48.97286 (30, 1)	37.60764 (30, 1)
3000.0 /	43.85513 (30, 1)	68.35310 (30, 1)	79.25098 (30, 1)	68.35332 (30, 1)	43.85540 (30, 1)
2000.0 /	41.57881 (30, 1)	104.84473 (30, 1)	142.70488 (30, 1)	104.84519 (30, 1)	41.57917 (30, 1)
1000.0 /	30.60678 (16, 1)	139.93274 (30, 1)	415.66602 (30, 1)	139.93382 (30, 1)	30.60689 (16, 1)

1

HIGH
1-HR
SGROUP# 1

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 11,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	4.51976	(1, 1)
0.0	50.0	69589.45313	(30, 1)	50.0	50.0	4.51977	(1, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.51125	(1, 1)
-50.0	100.0	92.70235	(1, 1)	0.0	100.0	20766.97656	(30, 1)
50.0	100.0	92.66438	(1, 1)	100.0	100.0	0.51104	(1, 1)
-100.0	200.0	18.12136	(1, 1)	-50.0	200.0	103.28004	(4, 1)
0.0	200.0	6212.86719	(30, 1)	50.0	200.0	103.28020	(4, 1)
100.0	200.0	18.11987	(1, 1)	-100.0	300.0	21.86284	(1, 1)
-50.0	300.0	97.38287	(9, 1)	0.0	300.0	3110.44336	(30, 1)
50.0	300.0	97.38309	(9, 1)	100.0	300.0	21.86286	(1, 1)
-100.0	400.0	24.36972	(4, 1)	-50.0	400.0	103.44281	(16, 1)
0.0	400.0	1905.03101	(30, 1)	50.0	400.0	103.44322	(16, 1)
100.0	400.0	24.36976	(4, 1)	-100.0	500.0	22.39601	(4, 1)
-50.0	500.0	114.14868	(16, 1)	0.0	500.0	1302.88879	(30, 1)
50.0	500.0	114.14904	(16, 1)	100.0	500.0	22.39604	(4, 1)
-100.0	600.0	24.01212	(9, 1)	-50.0	600.0	122.90998	(25, 1)
0.0	600.0	955.44098	(30, 1)	50.0	600.0	122.91063	(25, 1)
100.0	600.0	24.01219	(9, 1)	-100.0	700.0	24.28424	(9, 1)
-50.0	700.0	128.40630	(25, 1)	0.0	700.0	735.19324	(30, 1)
50.0	700.0	128.40688	(25, 1)	100.0	700.0	24.28429	(9, 1)
-100.0	800.0	26.15682	(16, 1)	-50.0	800.0	125.51039	(25, 1)
0.0	800.0	593.79565	(30, 1)	50.0	800.0	125.51089	(25, 1)
100.0	800.0	26.15694	(16, 1)	-100.0	900.0	29.20702	(16, 1)
-50.0	900.0	131.43202	(30, 1)	0.0	900.0	491.88025	(30, 1)
50.0	900.0	131.43314	(30, 1)	100.0	900.0	29.20713	(16, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 11,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 207.83301 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	2.45154 (31, 1)	2.47639 (31, 1)	2.48473 (31, 1)	2.47639 (31, 1)	2.45154 (31, 1)
24000.0 /	2.57271 (31, 1)	2.60074 (31, 1)	2.61015 (31, 1)	2.60074 (31, 1)	2.57271 (31, 1)
23000.0 /	2.70527 (31, 1)	2.73705 (31, 1)	2.74773 (31, 1)	2.73705 (31, 1)	2.70527 (31, 1)
22000.0 /	2.85083 (31, 1)	2.88707 (31, 1)	2.89925 (31, 1)	2.88707 (31, 1)	2.85083 (31, 1)
21000.0 /	3.01131 (31, 1)	3.05288 (31, 1)	3.06687 (31, 1)	3.05288 (31, 1)	3.01131 (31, 1)
20000.0 /	3.18901 (31, 1)	3.23702 (31, 1)	3.25319 (31, 1)	3.23703 (31, 1)	3.18902 (31, 1)
19000.0 /	3.38672 (31, 1)	3.44259 (31, 1)	3.46141 (31, 1)	3.44259 (31, 1)	3.38673 (31, 1)
18000.0 /	3.60785 (31, 1)	3.67338 (31, 1)	3.69548 (31, 1)	3.67338 (31, 1)	3.60785 (31, 1)
17000.0 /	3.85656 (31, 1)	3.93414 (31, 1)	3.96034 (31, 1)	3.93414 (31, 1)	3.85657 (31, 1)
16000.0 /	4.13808 (31, 1)	4.23085 (31, 1)	4.26223 (31, 1)	4.23085 (31, 1)	4.13809 (31, 1)
15000.0 /	4.45894 (31, 1)	4.57115 (31, 1)	4.60918 (31, 1)	4.57116 (31, 1)	4.45894 (31, 1)
14000.0 /	4.85679 (31, 1)	4.99515 (31, 1)	5.04215 (31, 1)	4.99516 (31, 1)	4.85680 (31, 1)
13000.0 /	5.32092 (31, 1)	5.49416 (31, 1)	5.55315 (31, 1)	5.49417 (31, 1)	5.32093 (31, 1)
12000.0 /	5.86768 (31, 1)	6.08846 (31, 1)	6.16389 (31, 1)	6.08847 (31, 1)	5.86769 (31, 1)
11000.0 /	6.51905 (31, 1)	6.80630 (31, 1)	6.90484 (31, 1)	6.80630 (31, 1)	6.51906 (31, 1)
10000.0 /	7.30483 (31, 1)	7.68780 (31, 1)	7.81987 (31, 1)	7.68780 (31, 1)	7.30484 (31, 1)
9000.0 /	8.26593 (31, 1)	8.79167 (31, 1)	8.97425 (31, 1)	8.79168 (31, 1)	8.26595 (31, 1)
8000.0 /	9.45903 (31, 1)	10.20696 (31, 1)	10.46920 (31, 1)	10.20698 (31, 1)	9.45905 (31, 1)
7000.0 /	10.96224 (31, 1)	12.07446 (31, 1)	12.46973 (31, 1)	12.07447 (31, 1)	10.96228 (31, 1)
6000.0 /	12.97855 (31, 1)	14.74170 (31, 1)	15.38113 (31, 1)	14.74173 (31, 1)	12.97860 (31, 1)
5000.0 /	15.57965 (31, 1)	18.59119 (31, 1)	19.71926 (31, 1)	18.59123 (31, 1)	15.57972 (31, 1)
4000.0 /	18.86897 (25, 1)	24.48637 (31, 1)	26.73940 (31, 1)	24.48643 (31, 1)	18.86901 (25, 1)
3000.0 /	25.92835 (25, 1)	34.17655 (31, 1)	39.62549 (31, 1)	34.17666 (31, 1)	25.92842 (25, 1)
2000.0 /	35.52221 (25, 1)	53.49699 (25, 1)	71.35244 (31, 1)	53.49709 (25, 1)	35.52235 (25, 1)
1000.0 /	25.96979 (25, 1)	110.18616 (25, 1)	207.83301 (31, 1)	110.18653 (25, 1)	25.96996 (25, 1)

1

2ND HIGH
1-HR
SGROUP# 1

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 11,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	2.25988	(2, 1)
0.0	50.0	34794.72656	(31, 1)	50.0	50.0	2.25989	(2, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.25563	(2, 1)
-50.0	100.0	46.35118	(2, 1)	0.0	100.0	10383.48828	(31, 1)
50.0	100.0	46.33219	(2, 1)	100.0	100.0	0.25552	(2, 1)
-100.0	200.0	9.06068	(2, 1)	-50.0	200.0	81.35712	(1, 1)
0.0	200.0	3106.43359	(31, 1)	50.0	200.0	81.35719	(1, 1)
100.0	200.0	9.05993	(2, 1)	-100.0	300.0	19.93756	(4, 1)
-50.0	300.0	78.94122	(4, 1)	0.0	300.0	1555.22168	(31, 1)
50.0	300.0	78.94130	(4, 1)	100.0	300.0	19.93760	(4, 1)
-100.0	400.0	16.64890	(1, 1)	-50.0	400.0	88.90455	(9, 1)
0.0	400.0	952.51550	(31, 1)	50.0	400.0	88.90470	(9, 1)
100.0	400.0	16.64891	(1, 1)	-100.0	500.0	20.89331	(9, 1)
-50.0	500.0	102.50342	(25, 1)	0.0	500.0	651.44440	(31, 1)
50.0	500.0	102.50402	(25, 1)	100.0	500.0	20.89338	(9, 1)
-100.0	600.0	19.08747	(4, 1)	-50.0	600.0	109.33000	(16, 1)
0.0	600.0	477.72049	(31, 1)	50.0	600.0	109.33032	(16, 1)
100.0	600.0	19.08749	(4, 1)	-100.0	700.0	21.04820	(16, 1)
-50.0	700.0	99.16006	(16, 1)	0.0	700.0	367.59662	(31, 1)
50.0	700.0	99.16031	(16, 1)	100.0	700.0	21.04831	(16, 1)
-100.0	800.0	23.12037	(9, 1)	-50.0	800.0	115.55087	(30, 1)
0.0	800.0	296.89783	(31, 1)	50.0	800.0	115.55192	(30, 1)
100.0	800.0	23.12042	(9, 1)	-100.0	900.0	21.37210	(9, 1)
-50.0	900.0	118.61535	(25, 1)	0.0	900.0	245.94012	(31, 1)
50.0	900.0	118.61579	(25, 1)	100.0	900.0	21.37213	(9, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 12,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 191.35721 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS / (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	84.14262 (30, 1)	84.99221 (30, 1)	85.27733 (30, 1)	84.99226 (30, 1)	84.14272 (30, 1)
24000.0 /	84.98642 (30, 1)	85.90849 (30, 1)	86.21808 (30, 1)	85.90854 (30, 1)	84.98652 (30, 1)
23000.0 /	85.82340 (30, 1)	86.82707 (30, 1)	87.16425 (30, 1)	86.82713 (30, 1)	85.82351 (30, 1)
22000.0 /	87.06335 (25, 1)	87.74513 (30, 1)	88.11354 (30, 1)	87.74519 (30, 1)	87.06340 (25, 1)
21000.0 /	89.41792 (25, 1)	89.96130 (25, 1)	90.14318 (25, 1)	89.96133 (25, 1)	89.41797 (25, 1)
20000.0 /	91.87420 (25, 1)	92.48266 (25, 1)	92.68639 (25, 1)	92.48269 (25, 1)	91.87425 (25, 1)
19000.0 /	94.03857 (25, 1)	94.72034 (25, 1)	94.94871 (25, 1)	94.72038 (25, 1)	94.03863 (25, 1)
18000.0 /	96.20953 (25, 1)	96.97691 (25, 1)	97.23406 (25, 1)	96.97694 (25, 1)	96.20959 (25, 1)
17000.0 /	98.36594 (25, 1)	99.23388 (25, 1)	99.52490 (25, 1)	99.23391 (25, 1)	98.36600 (25, 1)
16000.0 /	100.47938 (25, 1)	101.46629 (25, 1)	101.79741 (25, 1)	101.46632 (25, 1)	100.47945 (25, 1)
15000.0 /	102.51192 (25, 1)	103.64062 (25, 1)	104.01962 (25, 1)	103.64066 (25, 1)	102.51201 (25, 1)
14000.0 /	104.41319 (25, 1)	105.71224 (25, 1)	106.14886 (25, 1)	105.71229 (25, 1)	104.41328 (25, 1)
13000.0 /	106.11600 (25, 1)	107.62160 (25, 1)	108.12821 (25, 1)	107.62164 (25, 1)	106.11608 (25, 1)
12000.0 /	107.53094 (25, 1)	109.28946 (25, 1)	109.88202 (25, 1)	109.28951 (25, 1)	107.53103 (25, 1)
11000.0 /	108.53866 (25, 1)	110.61033 (25, 1)	111.30965 (25, 1)	110.61038 (25, 1)	108.53876 (25, 1)
10000.0 /	108.98335 (25, 1)	111.44764 (25, 1)	112.28141 (25, 1)	111.44769 (25, 1)	108.98346 (25, 1)
9000.0 /	107.81854 (25, 1)	110.75933 (25, 1)	111.75733 (25, 1)	110.75939 (25, 1)	107.81866 (25, 1)
8000.0 /	105.37736 (25, 1)	108.92265 (25, 1)	110.13074 (25, 1)	108.92271 (25, 1)	105.37749 (25, 1)
7000.0 /	101.26267 (25, 1)	105.58556 (25, 1)	107.06716 (25, 1)	105.58562 (25, 1)	101.26281 (25, 1)
6000.0 /	95.25127 (26, 1)	100.66924 (26, 1)	102.54289 (26, 1)	100.66932 (26, 1)	95.25143 (26, 1)
5000.0 /	90.34921 (26, 1)	97.49881 (26, 1)	100.00563 (26, 1)	97.49890 (26, 1)	90.34937 (26, 1)
4000.0 /	81.75802 (27, 1)	91.57069 (27, 1)	95.09667 (27, 1)	91.57079 (27, 1)	81.75819 (27, 1)
3000.0 /	73.00571 (6, 1)	79.99690 (29, 1)	85.20787 (29, 1)	79.99701 (29, 1)	73.00573 (6, 1)
2000.0 /	93.15690 (6, 1)	108.25881 (23, 1)	116.72501 (23, 1)	108.25893 (23, 1)	93.15694 (6, 1)
1000.0 /	127.76685 (3, 1)	147.25610 (24, 1)	191.35721 (24, 1)	147.25636 (24, 1)	127.76689 (3, 1)

1

HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 12,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	1.28868	(30, 1)
0.0	50.0	3.77265	(30, 1)	50.0	50.0	1.28869	(30, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	1.47000	(25, 1)
-50.0	100.0	8.31225	(25, 1)	0.0	100.0	19.13261	(30, 1)
50.0	100.0	8.31235	(25, 1)	100.0	100.0	1.47002	(25, 1)
-100.0	200.0	1.71053	(25, 1)	-50.0	200.0	8.97529	(25, 1)
0.0	200.0	19.76413	(30, 1)	50.0	200.0	8.97530	(25, 1)
100.0	200.0	1.71053	(25, 1)	-100.0	300.0	2.09997	(25, 1)
-50.0	300.0	9.93780	(25, 1)	0.0	300.0	20.55105	(30, 1)
50.0	300.0	9.93781	(25, 1)	100.0	300.0	2.09997	(25, 1)
-100.0	400.0	4.29899	(3, 1)	-50.0	400.0	15.02932	(15, 1)
0.0	400.0	48.96770	(24, 1)	50.0	400.0	15.02935	(15, 1)
100.0	400.0	4.29899	(3, 1)	-100.0	500.0	35.74715	(3, 1)
-50.0	500.0	45.86356	(15, 1)	0.0	500.0	104.14300	(24, 1)
50.0	500.0	45.86362	(15, 1)	100.0	500.0	35.74717	(3, 1)
-100.0	600.0	99.81518	(3, 1)	-50.0	600.0	119.45597	(3, 1)
0.0	600.0	149.70387	(24, 1)	50.0	600.0	119.45600	(3, 1)
100.0	600.0	99.81523	(3, 1)	-100.0	700.0	138.72891	(3, 1)
-50.0	700.0	159.27415	(3, 1)	0.0	700.0	178.19670	(24, 1)
50.0	700.0	159.27419	(3, 1)	100.0	700.0	138.72897	(3, 1)
-100.0	800.0	143.71338	(3, 1)	-50.0	800.0	160.41791	(3, 1)
0.0	800.0	191.92363	(24, 1)	50.0	800.0	160.41794	(3, 1)
100.0	800.0	143.71344	(3, 1)	-100.0	900.0	136.04881	(3, 1)
-50.0	900.0	148.93584	(3, 1)	0.0	900.0	195.27443	(24, 1)
50.0	900.0	148.93587	(3, 1)	100.0	900.0	136.04887	(3, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 12,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 149.36676 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	80.57471 (25, 1)	80.93499 (25, 1)	81.05545 (25, 1)	80.93501 (25, 1)	80.57475 (25, 1)
24000.0 /	82.64563 (25, 1)	83.04266 (25, 1)	83.17544 (25, 1)	83.04269 (25, 1)	82.64568 (25, 1)
23000.0 /	84.80716 (25, 1)	85.24625 (25, 1)	85.39313 (25, 1)	85.24628 (25, 1)	84.80721 (25, 1)
22000.0 /	86.64916 (30, 1)	87.55080 (25, 1)	87.71391 (25, 1)	87.55083 (25, 1)	86.64928 (30, 1)
21000.0 /	87.45819 (30, 1)	88.65906 (30, 1)	89.06302 (30, 1)	88.65912 (30, 1)	87.45831 (30, 1)
20000.0 /	88.24390 (30, 1)	89.56462 (30, 1)	90.00926 (30, 1)	89.56468 (30, 1)	88.24402 (30, 1)
19000.0 /	88.99794 (30, 1)	90.45641 (30, 1)	90.94788 (30, 1)	90.45648 (30, 1)	88.99807 (30, 1)
18000.0 /	89.71012 (30, 1)	91.32790 (30, 1)	91.87364 (30, 1)	91.32797 (30, 1)	89.71026 (30, 1)
17000.0 /	90.36758 (30, 1)	92.17090 (30, 1)	92.77999 (30, 1)	92.17097 (30, 1)	90.36772 (30, 1)
16000.0 /	90.95415 (30, 1)	92.97522 (30, 1)	93.65887 (30, 1)	92.97530 (30, 1)	90.95430 (30, 1)
15000.0 /	91.44936 (30, 1)	93.72818 (30, 1)	94.50037 (30, 1)	93.72826 (30, 1)	91.44952 (30, 1)
14000.0 /	90.52850 (30, 1)	93.07880 (30, 1)	93.94479 (30, 1)	93.07888 (30, 1)	90.52866 (30, 1)
13000.0 /	89.29563 (30, 1)	92.16599 (30, 1)	93.14317 (30, 1)	92.16608 (30, 1)	89.29580 (30, 1)
12000.0 /	88.83338 (31, 1)	92.14490 (31, 1)	93.27597 (31, 1)	92.14499 (31, 1)	88.83356 (31, 1)
11000.0 /	90.52789 (26, 1)	92.26273 (26, 1)	93.58344 (31, 1)	92.26278 (26, 1)	90.52798 (26, 1)
10000.0 /	93.47636 (26, 1)	95.60009 (26, 1)	96.31869 (26, 1)	95.60014 (26, 1)	93.47646 (26, 1)
9000.0 /	95.62875 (26, 1)	98.25208 (26, 1)	99.14243 (26, 1)	98.25213 (26, 1)	95.62886 (26, 1)
8000.0 /	97.00013 (26, 1)	100.28679 (26, 1)	101.40692 (26, 1)	100.28685 (26, 1)	97.00025 (26, 1)
7000.0 /	97.11316 (26, 1)	101.29638 (26, 1)	102.73047 (26, 1)	101.29645 (26, 1)	97.11330 (26, 1)
6000.0 /	94.97813 (25, 1)	100.31684 (25, 1)	102.16232 (25, 1)	100.31692 (25, 1)	94.97828 (25, 1)
5000.0 /	87.97032 (27, 1)	94.97858 (27, 1)	97.43665 (27, 1)	94.97867 (27, 1)	87.97047 (27, 1)
4000.0 /	80.86475 (26, 1)	90.47271 (26, 1)	93.92269 (26, 1)	90.47280 (26, 1)	80.86491 (26, 1)
3000.0 /	71.35699 (11, 1)	79.85566 (28, 1)	85.02600 (28, 1)	79.85577 (28, 1)	71.35704 (11, 1)
2000.0 /	86.36975 (23, 1)	105.53446 (24, 1)	113.84026 (24, 1)	105.53457 (24, 1)	86.36993 (23, 1)
1000.0 /	89.40362 (15, 1)	137.96681 (3, 1)	149.36676 (23, 1)	137.96684 (3, 1)	89.40376 (15, 1)

1

2ND HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/O FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 12,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.03131	(25, 1)
0.0	50.0	0.09276	(25, 1)	50.0	50.0	0.03131	(25, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.67993	(30, 1)
-50.0	100.0	8.30705	(30, 1)	0.0	100.0	14.80876	(25, 1)
50.0	100.0	8.30706	(30, 1)	100.0	100.0	0.67993	(30, 1)
-100.0	200.0	0.77118	(30, 1)	-50.0	200.0	8.78409	(30, 1)
0.0	200.0	15.59630	(25, 1)	50.0	200.0	8.78411	(30, 1)
100.0	200.0	0.77118	(30, 1)	-100.0	300.0	0.91691	(30, 1)
-50.0	300.0	9.44512	(30, 1)	0.0	300.0	16.68461	(25, 1)
50.0	300.0	9.44513	(30, 1)	100.0	300.0	0.91691	(30, 1)
-100.0	400.0	2.66611	(15, 1)	-50.0	400.0	12.43640	(24, 1)
0.0	400.0	26.74814	(15, 1)	50.0	400.0	12.43644	(24, 1)
100.0	400.0	2.66612	(15, 1)	-100.0	500.0	14.39150	(15, 1)
-50.0	500.0	45.67340	(3, 1)	0.0	500.0	67.49244	(15, 1)
50.0	500.0	45.67342	(3, 1)	100.0	500.0	14.39154	(15, 1)
-100.0	600.0	34.29452	(15, 1)	-50.0	600.0	79.09270	(15, 1)
0.0	600.0	126.82698	(3, 1)	50.0	600.0	79.09279	(15, 1)
100.0	600.0	34.29461	(15, 1)	-100.0	700.0	55.20840	(15, 1)
-50.0	700.0	108.36845	(24, 1)	0.0	700.0	166.77776	(3, 1)
50.0	700.0	108.36871	(24, 1)	100.0	700.0	55.20852	(15, 1)
-100.0	800.0	72.10754	(15, 1)	-50.0	800.0	129.87004	(24, 1)
0.0	800.0	166.40694	(3, 1)	50.0	800.0	129.87032	(24, 1)
100.0	800.0	72.10766	(15, 1)	-100.0	900.0	83.40747	(15, 1)
-50.0	900.0	142.41396	(24, 1)	0.0	900.0	153.49730	(3, 1)
50.0	900.0	142.41425	(24, 1)	100.0	900.0	83.40762	(15, 1)

RUN ENDED ON 01-13-92 AT 08:13:51

1 ISCST - (DATED 90346)

IBM-PC VERSION (2.04)
(C) COPYRIGHT 1990, TRINITY CONSULTANTS, INC.
SERIAL NUMBER 6688 SOLD TO ENVIRONMENTAL MANAGMENT ASSOCIATES
RUN BEGAN ON 01-13-92 AT 08:13:56

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*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)	ISW(1) = 1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)	ISW(2) = 3
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)	ISW(3) = 1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)	ISW(4) = 0
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)	ISW(5) = 0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)	ISW(6) = 2
COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION) WITH THE FOLLOWING TIME PERIODS:	
HOURLY (YES=1,NO=0)	ISW(7) = 1
2-HOUR (YES=1,NO=0)	ISW(8) = 0
3-HOUR (YES=1,NO=0)	ISW(9) = 0
4-HOUR (YES=1,NO=0)	ISW(10) = 0
6-HOUR (YES=1,NO=0)	ISW(11) = 0
8-HOUR (YES=1,NO=0)	ISW(12) = 0
12-HOUR (YES=1,NO=0)	ISW(13) = 0
24-HOUR (YES=1,NO=0)	ISW(14) = 0
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)	ISW(15) = 0
PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE SPECIFIED BY ISW(7) THROUGH ISW(14):	
DAILY TABLES (YES=1,NO=0)	ISW(16) = 0
HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)	ISW(17) = 1
MAXIMUM 50 TABLES (YES=1,NO=0)	ISW(18) = 0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)	ISW(19) = 2
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)	ISW(20) = 0
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)	ISW(21) = 1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)	ISW(22) = 1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)	ISW(23) = 0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)	ISW(24) = 1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)	ISW(25) = 1
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)	ISW(26) = 1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)	ISW(27) = 2
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)	ISW(28) = 2
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)	ISW(29) = 2
DEBUG OPTION CHOSEN (YES=1,NO=2)	ISW(30) = 2
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)	ISW(31) = 1
NUMBER OF INPUT SOURCES	NSOURC = 20
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)	NGROUP = 12
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)	IPERD = 0
NUMBER OF X (RANGE) GRID VALUES	NXPNTS = 5
NUMBER OF Y (THETA) GRID VALUES	NYPNTS = 25
NUMBER OF DISCRETE RECEPTORS	NXWYPT = 50
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA	NHOURS = 1
NUMBER OF DAYS OF METEOROLOGICAL DATA	NDAYS = 33
SOURCE EMISSION RATE UNITS CONVERSION FACTOR	TK =.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED	ZR = 10.00 METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA	IMET = 7
ALLOCATED DATA STORAGE	LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN	MIMIT = 16895 WORDS

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*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

0 *** NUMBER OF SOURCE NUMBERS REQUIRED TO DEFINE SOURCE GROUPS ***
(NSOGRP)

1, 1, 3, 1, 1, 1, 1, 1, 1, 3, 1, 1,

0 *** SOURCE NUMBERS DEFINING SOURCE GROUPS ***
(IDSOR)

1, 2, 3, 13, -16, 4, 5, 6, 7, 8, 9, 10, 17, -20,
11, 12,

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** X-COORDINATES OF RECTANGULAR GRID SYSTEM ***
(METERS)

-100.0, -50.0, 0.0, 50.0, 100.0,

*** Y-COORDINATES OF RECTANGULAR GRID SYSTEM ***
(METERS)

1000.0, 2000.0, 3000.0, 4000.0, 5000.0, 6000.0, 7000.0, 8000.0, 9000.0, 10000.0,
11000.0, 12000.0, 13000.0, 14000.0, 15000.0, 16000.0, 17000.0, 18000.0, 19000.0, 20000.0,
21000.0, 22000.0, 23000.0, 24000.0, 25000.0,

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*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

*** X,Y COORDINATES OF DISCRETE RECEPTORS ***
(METERS)

(-100.0,	50.0),	(-50.0,	50.0),	(0.0,	50.0),	(50.0,	50.0),	(100.0,	50.0),
(-100.0,	100.0),	(-50.0,	100.0),	(0.0,	100.0),	(50.0,	100.0),	(100.0,	100.0),
(-100.0,	200.0),	(-50.0,	200.0),	(0.0,	200.0),	(50.0,	200.0),	(100.0,	200.0),
(-100.0,	300.0),	(-50.0,	300.0),	(0.0,	300.0),	(50.0,	300.0),	(100.0,	300.0),
(-100.0,	400.0),	(-50.0,	400.0),	(0.0,	400.0),	(50.0,	400.0),	(100.0,	400.0),
(-100.0,	500.0),	(-50.0,	500.0),	(0.0,	500.0),	(50.0,	500.0),	(100.0,	500.0),
(-100.0,	600.0),	(-50.0,	600.0),	(0.0,	600.0),	(50.0,	600.0),	(100.0,	600.0),
(-100.0,	700.0),	(-50.0,	700.0),	(0.0,	700.0),	(50.0,	700.0),	(100.0,	700.0),
(-100.0,	800.0),	(-50.0,	800.0),	(0.0,	800.0),	(50.0,	800.0),	(100.0,	800.0),
(-100.0,	900.0),	(-50.0,	900.0),	(0.0,	900.0),	(50.0,	900.0),	(100.0,	900.0),

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*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* ABOVE GROUND RECEPTOR HEIGHTS IN METERS *
* FOR THE RECEPTOR GRID *

Y-AXIS (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
24000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
23000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
22000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
21000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
20000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
19000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
18000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
17000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
16000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
15000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
14000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
13000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
12000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
11000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
10000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
9000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
8000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
7000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
6000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
5000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
4000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
3000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
2000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
1000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000

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*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* ABOVE GROUND RECEPTOR HEIGHTS IN METERS *
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	HGT.	- X -	- Y -	HGT.	- X -	- Y -	HGT.
-100.0	50.0	10.00000	-50.0	50.0	10.00000	0.0	50.0	10.00000
50.0	50.0	10.00000	100.0	50.0	10.00000	-100.0	100.0	10.00000
-50.0	100.0	10.00000	0.0	100.0	10.00000	50.0	100.0	10.00000
100.0	100.0	10.00000	-100.0	200.0	10.00000	-50.0	200.0	10.00000
0.0	200.0	10.00000	50.0	200.0	10.00000	100.0	200.0	10.00000
-100.0	300.0	10.00000	-50.0	300.0	10.00000	0.0	300.0	10.00000
50.0	300.0	10.00000	100.0	300.0	10.00000	-100.0	400.0	10.00000
-50.0	400.0	10.00000	0.0	400.0	10.00000	50.0	400.0	10.00000
100.0	400.0	10.00000	-100.0	500.0	10.00000	-50.0	500.0	10.00000
0.0	500.0	10.00000	50.0	500.0	10.00000	100.0	500.0	10.00000
-100.0	600.0	10.00000	-50.0	600.0	10.00000	0.0	600.0	10.00000
50.0	600.0	10.00000	100.0	600.0	10.00000	-100.0	700.0	10.00000
-50.0	700.0	10.00000	0.0	700.0	10.00000	50.0	700.0	10.00000
100.0	700.0	10.00000	-100.0	800.0	10.00000	-50.0	800.0	10.00000
0.0	800.0	10.00000	50.0	800.0	10.00000	100.0	800.0	10.00000
-100.0	900.0	10.00000	-50.0	900.0	10.00000	0.0	900.0	10.00000
50.0	900.0	10.00000	100.0	900.0	10.00000			

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

*** SOURCE DATA ***

SOURCE NUMBER	TYPE E	WAK E	NUMBER PART. CATS.	EMISSION RATE TYPE=0,1 (GRAMS/SEC) TYPE=2 (GRAMS/SEC) *PER METER**2	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	HEIGHT (METERS)	TEMP. TYPE=0 (DEG.K); VERT.DIM TYPE=1 (METERS)	EXIT VEL. TYPE=0 (M/SEC); HORZ.DIM TYPE=1,2 (METERS)	DIAMETER TYPE=0 (METERS)	BLDG. HEIGHT TYPE=0 (METERS)	BLDG. LENGTH TYPE=0 (METERS)	BLDG. WIDTH TYPE=0 (METERS)
1	0	0	0	0.56447E+01	0.0	0.0	204.2	6.10	372.59	5.23	4.57	0.00	0.00	0.00
2	0	0	0	0.56447E+02	0.0	0.0	204.2	6.10	372.59	5.23	4.57	0.00	0.00	0.00
3	1	0	0	0.37673E+01	0.0	19.0	204.2	19.81	9.21	17.72	0.00	0.00	0.00	0.00
4	0	0	0	0.56447E+02	0.0	0.0	204.2	21.64	372.59	0.21	22.86	0.00	0.00	0.00
5	0	0	0	0.56447E+02	0.0	0.0	204.2	21.64	372.59	0.21	22.86	0.00	0.00	0.00
6	0	0	0	0.56447E+02	0.0	0.0	204.2	12.19	372.59	0.18	24.38	0.00	0.00	0.00
7	0	0	0	0.56447E+02	0.0	0.0	204.2	0.00	372.59	0.47	15.24	0.00	0.00	0.00
8	0	0	0	0.56447E+00	0.0	0.0	204.2	1.83	344.26	0.02	7.77	0.00	0.00	0.00
9	0	0	0	0.56447E+00	0.0	0.0	204.2	0.00	344.26	0.02	21.55	0.00	0.00	0.00
10	1	0	0	0.18774E+01	0.0	19.0	204.2	19.81	9.21	17.72	0.00	0.00	0.00	0.00
11	0	0	0	0.61739E+00	0.0	0.0	204.2	0.00	193.00	0.00	1.00	0.00	0.00	0.00
12	0	0	0	0.70559E+02	0.0	0.0	204.2	6.10	372.59	14.37	4.57	0.00	0.00	0.00
13	1	0	0	0.75221E+01	0.0	95.3	204.2	19.81	9.21	17.72	0.00	0.00	0.00	0.00
14	1	0	0	0.11277E+02	0.0	171.5	204.2	19.81	9.21	17.72	0.00	0.00	0.00	0.00
15	1	0	0	0.15057E+02	0.0	247.7	204.2	19.81	9.21	17.72	0.00	0.00	0.00	0.00
16	1	0	0	0.18811E+02	0.0	323.9	204.2	19.81	9.21	17.72	0.00	0.00	0.00	0.00
17	1	0	0	0.37673E+01	0.0	95.3	204.2	19.81	9.21	17.72	0.00	0.00	0.00	0.00
18	1	0	0	0.56447E+01	0.0	171.5	204.2	19.81	9.21	17.72	0.00	0.00	0.00	0.00
19	1	0	0	0.75221E+01	0.0	247.7	204.2	19.81	9.21	17.72	0.00	0.00	0.00	0.00
20	1	0	0	0.94120E+01	0.0	323.9	204.2	19.81	9.21	17.72	0.00	0.00	0.00	0.00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* SOURCE-RECEPTOR COMBINATIONS LESS THAN 001 METERS OR THREE BUILDING HEIGHTS IN DISTANCE. NO AVERAGE CONCENTRATION IS CALCULATED *

SOURCE NUMBER	- - RECEPTOR LOCATION - - X OR RANGE (METERS)	Y (METERS) OR DIRECTION (DEGREES)	DISTANCE BETWEEN (METERS)
3	0.0	50.0	-7.16
10	0.0	50.0	-7.16
13	0.0	100.0	-33.36
14	0.0	200.0	-9.56
16	0.0	300.0	-14.25
17	0.0	100.0	-33.36
18	0.0	200.0	-9.56
20	0.0	300.0	-14.25

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 1 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	1.00	300.0	300.0	0.0000	1	0.0700	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 2 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	2.00	300.0	300.0	0.0000	1	0.0700	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 3 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	3.00	300.0	300.0	0.0000	1	0.0700	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 4 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	1.00	300.0	298.0	0.0000	2	0.0700	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 5 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	2.00	300.0	298.0	0.0000	2	0.0700	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 6 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	3.00	300.0	298.0	0.0000	2	0.0700	0.000000E+00

1

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 7 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	4.00	300.0	298.0	0.0000	2	0.0700	0.000000E+00

1

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 8 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	5.00	300.0	298.0	0.0000	2	0.0700	0.000000E+00

1

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 9 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	1.00	300.0	296.0	0.0000	3	0.1000	0.000000E+00

1

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 10 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	2.00	300.0	296.0	0.0000	3	0.1000	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 11 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	3.00	300.0	296.0	0.0000	3	0.1000	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 12 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	4.00	300.0	296.0	0.0000	3	0.1000	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 13 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	5.00	300.0	296.0	0.0000	3	0.1000	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 14 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	8.00	300.0	296.0	0.0000	3	0.1000	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 15 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	10.00	300.0	296.0	0.0000	3	0.1000	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 16 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	1.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 17 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	2.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 18 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	3.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 19 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	4.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 20 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	5.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 21 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	8.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 22 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	10.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 23 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	15.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 24 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	20.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 25 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	1.00	100.0	291.0	0.0200	5	0.3500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 26 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	2.00	100.0	291.0	0.0200	5	0.3500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEORCLOGICAL DATA FOR DAY 27 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	3.00	100.0	291.0	0.0200	5	0.3500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 28 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	4.00	100.0	291.0	0.0200	5	0.3500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 29 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	5.00	100.0	291.0	0.0200	5	0.3500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 30 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	1.00	100.0	289.0	0.0350	6	0.5500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 31 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	2.00	100.0	289.0	0.0350	6	0.5500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 32 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	3.00	100.0	289.0	0.0350	6	0.5500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 33 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	4.00	100.0	289.0	0.0350	6	0.5500	0.000000E+00

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 1,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 30.15554 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS / (METERS) /	-100.0	-50.0	0.0	50.0	100.0
25000.0 /	14.52499 (30, 1)	14.67194 (30, 1)	14.72125 (30, 1)	14.67194 (30, 1)	14.52500 (30, 1)
24000.0 /	14.85970 (30, 1)	15.02126 (30, 1)	15.07550 (30, 1)	15.02127 (30, 1)	14.85971 (30, 1)
23000.0 /	15.20854 (30, 1)	15.38680 (30, 1)	15.44669 (30, 1)	15.38681 (30, 1)	15.20856 (30, 1)
22000.0 /	15.57216 (30, 1)	15.76961 (30, 1)	15.83598 (30, 1)	15.76962 (30, 1)	15.57218 (30, 1)
21000.0 /	15.95119 (30, 1)	16.17080 (30, 1)	16.24467 (30, 1)	16.17081 (30, 1)	15.95121 (30, 1)
20000.0 /	16.34618 (30, 1)	16.59154 (30, 1)	16.67414 (30, 1)	16.59155 (30, 1)	16.34620 (30, 1)
19000.0 /	16.75756 (30, 1)	17.03305 (30, 1)	17.12589 (30, 1)	17.03306 (30, 1)	16.75758 (30, 1)
18000.0 /	17.18559 (30, 1)	17.49660 (30, 1)	17.60151 (30, 1)	17.49661 (30, 1)	17.18562 (30, 1)
17000.0 /	17.63025 (30, 1)	17.98344 (30, 1)	18.10274 (30, 1)	17.98345 (30, 1)	17.63028 (30, 1)
16000.0 /	18.09106 (30, 1)	18.49480 (30, 1)	18.63137 (30, 1)	18.49481 (30, 1)	18.09109 (30, 1)
15000.0 /	18.56685 (30, 1)	19.03176 (30, 1)	19.18931 (30, 1)	19.03178 (30, 1)	18.56688 (30, 1)
14000.0 /	18.89487 (30, 1)	19.43008 (30, 1)	19.61184 (30, 1)	19.43010 (30, 1)	18.89490 (30, 1)
13000.0 /	19.19413 (30, 1)	19.81498 (30, 1)	20.02637 (30, 1)	19.81500 (30, 1)	19.19417 (30, 1)
12000.0 /	19.45144 (30, 1)	20.17784 (30, 1)	20.42595 (30, 1)	20.17786 (30, 1)	19.45148 (30, 1)
11000.0 /	19.64770 (30, 1)	20.50583 (30, 1)	20.80013 (30, 1)	20.50585 (30, 1)	19.64775 (30, 1)
10000.0 /	19.75632 (30, 1)	20.78126 (30, 1)	21.13460 (30, 1)	20.78128 (30, 1)	19.75637 (30, 1)
9000.0 /	19.73980 (30, 1)	20.97945 (30, 1)	21.40974 (30, 1)	20.97948 (30, 1)	19.73985 (30, 1)
8000.0 /	19.80893 (25, 1)	21.06553 (30, 1)	21.59847 (30, 1)	21.06556 (30, 1)	19.80896 (25, 1)
7000.0 /	20.30227 (25, 1)	21.17938 (25, 1)	21.66325 (30, 1)	21.17940 (25, 1)	20.30230 (25, 1)
6000.0 /	20.48223 (25, 1)	21.65181 (25, 1)	22.05634 (25, 1)	21.65183 (25, 1)	20.48227 (25, 1)
5000.0 /	20.10790 (25, 1)	21.70772 (25, 1)	22.26880 (25, 1)	21.70774 (25, 1)	20.10793 (25, 1)
4000.0 /	18.77903 (25, 1)	21.02846 (25, 1)	21.83663 (25, 1)	21.02848 (25, 1)	18.77907 (25, 1)
3000.0 /	15.33198 (26, 1)	18.53539 (26, 1)	20.02098 (32, 1)	18.53542 (26, 1)	15.33202 (26, 1)
2000.0 /	12.70095 (21, 1)	15.91753 (21, 1)	17.79742 (33, 1)	15.91755 (21, 1)	12.70098 (21, 1)
1000.0 /	15.55249 (2, 1)	23.12660 (23, 1)	30.15554 (23, 1)	23.12665 (23, 1)	15.55250 (2, 1)

1

HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 1,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.14481	(30, 1)
0.0	50.0	1.18151	(30, 1)	50.0	50.0	0.14481	(30, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.03658	(25, 1)
-50.0	100.0	1.03510	(25, 1)	0.0	100.0	4.63948	(30, 1)
50.0	100.0	1.03512	(25, 1)	100.0	100.0	0.03658	(25, 1)
-100.0	200.0	0.05689	(25, 1)	-50.0	200.0	1.23161	(25, 1)
0.0	200.0	43.94872	(24, 1)	50.0	200.0	1.23161	(25, 1)
100.0	200.0	0.05689	(25, 1)	-100.0	300.0	1.83906	(3, 1)
-50.0	300.0	9.66424	(15, 1)	0.0	300.0	59.06094	(24, 1)
50.0	300.0	9.66426	(15, 1)	100.0	300.0	1.83906	(3, 1)
-100.0	400.0	8.36113	(3, 1)	-50.0	400.0	18.88919	(15, 1)
0.0	400.0	56.06588	(24, 1)	50.0	400.0	18.88923	(15, 1)
100.0	400.0	8.36114	(3, 1)	-100.0	500.0	13.62322	(3, 1)
-50.0	500.0	23.57119	(15, 1)	0.0	500.0	50.49635	(24, 1)
50.0	500.0	23.57122	(15, 1)	100.0	500.0	13.62323	(3, 1)
-100.0	600.0	14.67199	(2, 1)	-50.0	600.0	24.55581	(15, 1)
0.0	600.0	44.77039	(24, 1)	50.0	600.0	24.55584	(15, 1)
100.0	600.0	14.67200	(2, 1)	-100.0	700.0	17.43602	(2, 1)
-50.0	700.0	23.78065	(24, 1)	0.0	700.0	39.54218	(24, 1)
50.0	700.0	23.78071	(24, 1)	100.0	700.0	17.43603	(2, 1)
-100.0	800.0	17.54760	(2, 1)	-50.0	800.0	24.11149	(23, 1)
0.0	800.0	35.82332	(23, 1)	50.0	800.0	24.11155	(23, 1)
100.0	800.0	17.54761	(2, 1)	-100.0	900.0	16.59441	(2, 1)
-50.0	900.0	23.89038	(23, 1)	0.0	900.0	32.92123	(23, 1)
50.0	900.0	23.89043	(23, 1)	100.0	900.0	16.59442	(2, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 1,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 27.78250 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	10.32272 (31, 1)	10.42723 (31, 1)	10.46230 (31, 1)	10.42724 (31, 1)	10.32273 (31, 1)
24000.0 /	10.63426 (31, 1)	10.74998 (31, 1)	10.78883 (31, 1)	10.74998 (31, 1)	10.63428 (31, 1)
23000.0 /	10.96401 (31, 1)	11.09264 (31, 1)	11.13585 (31, 1)	11.09264 (31, 1)	10.96403 (31, 1)
22000.0 /	11.31348 (31, 1)	11.45707 (31, 1)	11.50534 (31, 1)	11.45708 (31, 1)	11.31350 (31, 1)
21000.0 /	11.68434 (31, 1)	11.84537 (31, 1)	11.89954 (31, 1)	11.84538 (31, 1)	11.68436 (31, 1)
20000.0 /	12.07840 (31, 1)	12.25990 (31, 1)	12.32101 (31, 1)	12.25991 (31, 1)	12.07842 (31, 1)
19000.0 /	12.49763 (31, 1)	12.70334 (31, 1)	12.77266 (31, 1)	12.70335 (31, 1)	12.49764 (31, 1)
18000.0 /	12.94413 (31, 1)	13.17869 (31, 1)	13.25783 (31, 1)	13.17871 (31, 1)	12.94415 (31, 1)
17000.0 /	13.42016 (31, 1)	13.68940 (31, 1)	13.78035 (31, 1)	13.68941 (31, 1)	13.42018 (31, 1)
16000.0 /	13.97145 (25, 1)	14.23934 (31, 1)	14.34466 (31, 1)	14.23935 (31, 1)	13.97146 (25, 1)
15000.0 /	14.61396 (25, 1)	14.83290 (31, 1)	14.95592 (31, 1)	14.83291 (31, 1)	14.61397 (25, 1)
14000.0 /	15.29772 (25, 1)	15.48871 (25, 1)	15.55290 (25, 1)	15.48871 (25, 1)	15.29773 (25, 1)
13000.0 /	16.02272 (25, 1)	16.25095 (25, 1)	16.32775 (25, 1)	16.25096 (25, 1)	16.02273 (25, 1)
12000.0 /	16.78681 (25, 1)	17.06259 (25, 1)	17.15553 (25, 1)	17.06260 (25, 1)	16.78683 (25, 1)
11000.0 /	17.58418 (25, 1)	17.92159 (25, 1)	18.03550 (25, 1)	17.92160 (25, 1)	17.58419 (25, 1)
10000.0 /	18.40310 (25, 1)	18.82185 (25, 1)	18.96355 (25, 1)	18.82186 (25, 1)	18.40312 (25, 1)
9000.0 /	19.14689 (25, 1)	19.67312 (25, 1)	19.85173 (25, 1)	19.67313 (25, 1)	19.14691 (25, 1)
8000.0 /	19.54436 (30, 1)	20.48167 (25, 1)	20.71096 (25, 1)	20.48169 (25, 1)	19.54441 (30, 1)
7000.0 /	19.09126 (30, 1)	20.98946 (30, 1)	21.48010 (25, 1)	20.98949 (30, 1)	19.09132 (30, 1)
6000.0 /	17.94588 (30, 1)	20.31899 (30, 1)	21.17784 (30, 1)	20.31903 (30, 1)	17.94594 (30, 1)
5000.0 /	17.33612 (26, 1)	19.69966 (31, 1)	20.86801 (31, 1)	19.69970 (31, 1)	17.33615 (26, 1)
4000.0 /	17.33794 (26, 1)	19.44169 (26, 1)	20.51247 (31, 1)	19.44171 (26, 1)	17.33798 (26, 1)
3000.0 /	15.15936 (25, 1)	18.25763 (25, 1)	19.95488 (33, 1)	18.25766 (25, 1)	15.15939 (25, 1)
2000.0 /	12.57237 (22, 1)	15.77516 (22, 1)	17.48270 (27, 1)	15.77518 (22, 1)	12.57240 (22, 1)
1000.0 /	13.75225 (14, 1)	21.40847 (22, 1)	27.78250 (22, 1)	21.40851 (22, 1)	13.75227 (14, 1)

1

2ND HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 1,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.00472	(25, 1)
0.0	50.0	0.03900	(25, 1)	50.0	50.0	0.00472	(25, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.00714	(30, 1)
-50.0	100.0	0.91878	(30, 1)	0.0	100.0	3.15416	(25, 1)
50.0	100.0	0.91878	(30, 1)	100.0	100.0	0.00714	(30, 1)
-100.0	200.0	0.01978	(3, 1)	-50.0	200.0	1.12835	(15, 1)
0.0	200.0	11.02443	(23, 1)	50.0	200.0	1.12835	(15, 1)
100.0	200.0	0.01980	(3, 1)	-100.0	300.0	1.23997	(8, 1)
-50.0	300.0	5.50326	(24, 1)	0.0	300.0	32.26616	(23, 1)
50.0	300.0	5.50328	(24, 1)	100.0	300.0	1.23997	(8, 1)
-100.0	400.0	5.43289	(8, 1)	-50.0	400.0	13.76891	(24, 1)
0.0	400.0	40.71299	(23, 1)	50.0	400.0	13.76896	(24, 1)
100.0	400.0	5.43289	(8, 1)	-100.0	500.0	10.22450	(8, 1)
-50.0	500.0	19.82682	(24, 1)	0.0	500.0	42.51081	(23, 1)
50.0	500.0	19.82688	(24, 1)	100.0	500.0	10.22451	(8, 1)
-100.0	600.0	14.17994	(3, 1)	-50.0	600.0	22.89173	(24, 1)
0.0	600.0	41.32130	(23, 1)	50.0	600.0	22.89179	(24, 1)
100.0	600.0	14.17995	(3, 1)	-100.0	700.0	13.92646	(8, 1)
-50.0	700.0	23.61792	(15, 1)	0.0	700.0	38.71512	(23, 1)
50.0	700.0	23.61795	(15, 1)	100.0	700.0	13.92647	(8, 1)
-100.0	800.0	13.75534	(8, 1)	-50.0	800.0	23.43423	(24, 1)
0.0	800.0	34.95021	(24, 1)	50.0	800.0	23.43428	(24, 1)
100.0	800.0	13.75535	(8, 1)	-100.0	900.0	13.78919	(14, 1)
-50.0	900.0	22.42146	(24, 1)	0.0	900.0	30.97434	(24, 1)
50.0	900.0	22.42151	(24, 1)	100.0	900.0	13.78921	(14, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 2,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 301.55539 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS)	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0	145.24988 (30, 1)	146.71935 (30, 1)	147.21249 (30, 1)	146.71944 (30, 1)	145.25005 (30, 1)
24000.0	148.59695 (30, 1)	150.21257 (30, 1)	150.75504 (30, 1)	150.21266 (30, 1)	148.59714 (30, 1)
23000.0	152.08537 (30, 1)	153.86800 (30, 1)	154.46687 (30, 1)	153.86809 (30, 1)	152.08557 (30, 1)
22000.0	155.72163 (30, 1)	157.69609 (30, 1)	158.35982 (30, 1)	157.69620 (30, 1)	155.72183 (30, 1)
21000.0	159.51192 (30, 1)	161.70798 (30, 1)	162.44673 (30, 1)	161.70808 (30, 1)	159.51213 (30, 1)
20000.0	163.46176 (30, 1)	165.91537 (30, 1)	166.74144 (30, 1)	165.91548 (30, 1)	163.46199 (30, 1)
19000.0	167.57556 (30, 1)	170.33049 (30, 1)	171.25887 (30, 1)	170.33061 (30, 1)	167.57581 (30, 1)
18000.0	171.85594 (30, 1)	174.96596 (30, 1)	176.01512 (30, 1)	174.96608 (30, 1)	171.85620 (30, 1)
17000.0	176.30254 (30, 1)	179.83437 (30, 1)	181.02734 (30, 1)	179.83450 (30, 1)	176.30281 (30, 1)
16000.0	180.91061 (30, 1)	184.94797 (30, 1)	186.31372 (30, 1)	184.94812 (30, 1)	180.91092 (30, 1)
15000.0	185.66852 (30, 1)	190.31763 (30, 1)	191.89311 (30, 1)	190.31779 (30, 1)	185.66884 (30, 1)
14000.0	188.94867 (30, 1)	194.30077 (30, 1)	196.11835 (30, 1)	194.30095 (30, 1)	188.94901 (30, 1)
13000.0	191.94133 (30, 1)	198.14984 (30, 1)	200.26372 (30, 1)	198.15002 (30, 1)	191.94170 (30, 1)
12000.0	194.51443 (30, 1)	201.77838 (30, 1)	204.25955 (30, 1)	201.77858 (30, 1)	194.51485 (30, 1)
11000.0	196.47701 (30, 1)	205.05829 (30, 1)	208.00130 (30, 1)	205.05852 (30, 1)	196.47743 (30, 1)
10000.0	197.56319 (30, 1)	207.81258 (30, 1)	211.34596 (30, 1)	207.81282 (30, 1)	197.56364 (30, 1)
9000.0	197.39803 (30, 1)	209.79446 (30, 1)	214.09735 (30, 1)	209.79474 (30, 1)	197.39853 (30, 1)
8000.0	198.08934 (25, 1)	210.65533 (30, 1)	215.98473 (30, 1)	210.65562 (30, 1)	198.08958 (25, 1)
7000.0	203.02275 (25, 1)	211.79384 (25, 1)	216.63254 (30, 1)	211.79398 (25, 1)	203.02303 (25, 1)
6000.0	204.82236 (25, 1)	216.51813 (25, 1)	220.56335 (25, 1)	216.51831 (25, 1)	204.82266 (25, 1)
5000.0	201.07899 (25, 1)	217.07721 (25, 1)	222.68803 (25, 1)	217.07741 (25, 1)	201.07935 (25, 1)
4000.0	187.79025 (25, 1)	210.28456 (25, 1)	218.36632 (25, 1)	210.28479 (25, 1)	187.79065 (25, 1)
3000.0	153.31984 (26, 1)	185.35393 (26, 1)	200.20982 (32, 1)	185.35417 (26, 1)	153.32024 (26, 1)
2000.0	127.00954 (21, 1)	159.17531 (21, 1)	177.97420 (33, 1)	159.17548 (21, 1)	127.00981 (21, 1)
1000.0	155.52492 (2, 1)	231.26602 (23, 1)	301.55539 (23, 1)	231.26645 (23, 1)	155.52496 (2, 1)

1

HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 2,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	1.44811	(30, 1)
0.0	50.0	11.81506	(30, 1)	50.0	50.0	1.44811	(30, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.36582	(25, 1)
-50.0	100.0	10.35096	(25, 1)	0.0	100.0	46.39475	(30, 1)
50.0	100.0	10.35119	(25, 1)	100.0	100.0	0.36583	(25, 1)
-100.0	200.0	0.56888	(25, 1)	-50.0	200.0	12.31611	(25, 1)
0.0	200.0	439.48718	(24, 1)	50.0	200.0	12.31613	(25, 1)
100.0	200.0	0.56888	(25, 1)	-100.0	300.0	18.39063	(3, 1)
-50.0	300.0	96.64241	(15, 1)	0.0	300.0	590.60931	(24, 1)
50.0	300.0	96.64262	(15, 1)	100.0	300.0	18.39065	(3, 1)
-100.0	400.0	83.61131	(3, 1)	-50.0	400.0	188.89192	(15, 1)
0.0	400.0	560.65881	(24, 1)	50.0	400.0	188.89224	(15, 1)
100.0	400.0	83.61137	(3, 1)	-100.0	500.0	136.23221	(3, 1)
-50.0	500.0	235.71187	(15, 1)	0.0	500.0	504.96350	(24, 1)
50.0	500.0	235.71217	(15, 1)	100.0	500.0	136.23230	(3, 1)
-100.0	600.0	146.71991	(2, 1)	-50.0	600.0	245.55807	(15, 1)
0.0	600.0	447.70386	(24, 1)	50.0	600.0	245.55836	(15, 1)
100.0	600.0	146.71999	(2, 1)	-100.0	700.0	174.36017	(2, 1)
-50.0	700.0	237.80655	(24, 1)	0.0	700.0	395.42175	(24, 1)
50.0	700.0	237.80714	(24, 1)	100.0	700.0	174.36026	(2, 1)
-100.0	800.0	175.47600	(2, 1)	-50.0	800.0	241.11493	(23, 1)
0.0	800.0	358.23318	(23, 1)	50.0	800.0	241.11545	(23, 1)
100.0	800.0	175.47607	(2, 1)	-100.0	900.0	165.94411	(2, 1)
-50.0	900.0	238.90382	(23, 1)	0.0	900.0	329.21228	(23, 1)
50.0	900.0	238.90431	(23, 1)	100.0	900.0	165.94417	(2, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 2,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 277.82501 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS / (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	103.22718 (31, 1)	104.27230 (31, 1)	104.62304 (31, 1)	104.27236 (31, 1)	103.22729 (31, 1)
24000.0 /	106.34264 (31, 1)	107.49978 (31, 1)	107.88831 (31, 1)	107.49985 (31, 1)	106.34277 (31, 1)
23000.0 /	109.64014 (31, 1)	110.92638 (31, 1)	111.35849 (31, 1)	110.92645 (31, 1)	109.64027 (31, 1)
22000.0 /	113.13484 (31, 1)	114.57068 (31, 1)	115.05336 (31, 1)	114.57076 (31, 1)	113.13499 (31, 1)
21000.0 /	116.84341 (31, 1)	118.45368 (31, 1)	118.99538 (31, 1)	118.45376 (31, 1)	116.84356 (31, 1)
20000.0 /	120.78399 (31, 1)	122.59902 (31, 1)	123.21011 (31, 1)	122.59911 (31, 1)	120.78416 (31, 1)
19000.0 /	124.97625 (31, 1)	127.03336 (31, 1)	127.72659 (31, 1)	127.03345 (31, 1)	124.97643 (31, 1)
18000.0 /	129.44133 (31, 1)	131.78694 (31, 1)	132.57826 (31, 1)	131.78705 (31, 1)	129.44153 (31, 1)
17000.0 /	134.20155 (31, 1)	136.89401 (31, 1)	137.80348 (31, 1)	136.89412 (31, 1)	134.20177 (31, 1)
16000.0 /	139.71446 (25, 1)	142.39337 (31, 1)	143.44662 (31, 1)	142.39349 (31, 1)	139.71457 (25, 1)
15000.0 /	146.13959 (25, 1)	148.32899 (31, 1)	149.55917 (31, 1)	148.32912 (31, 1)	146.13969 (25, 1)
14000.0 /	152.97719 (25, 1)	154.88705 (25, 1)	155.52899 (25, 1)	154.88712 (25, 1)	152.97731 (25, 1)
13000.0 /	160.22719 (25, 1)	162.50954 (25, 1)	163.27754 (25, 1)	162.50961 (25, 1)	160.22733 (25, 1)
12000.0 /	167.86813 (25, 1)	170.62593 (25, 1)	171.55525 (25, 1)	170.62601 (25, 1)	167.86829 (25, 1)
11000.0 /	175.84174 (25, 1)	179.21591 (25, 1)	180.35500 (25, 1)	179.21600 (25, 1)	175.84190 (25, 1)
10000.0 /	184.03096 (25, 1)	188.21854 (25, 1)	189.63548 (25, 1)	188.21863 (25, 1)	184.03116 (25, 1)
9000.0 /	191.46889 (25, 1)	196.73119 (25, 1)	198.51726 (25, 1)	196.73129 (25, 1)	191.46910 (25, 1)
8000.0 /	195.44354 (30, 1)	204.81673 (25, 1)	207.10963 (25, 1)	204.81686 (25, 1)	195.44409 (30, 1)
7000.0 /	190.91257 (30, 1)	209.89458 (30, 1)	214.80099 (25, 1)	209.89490 (30, 1)	190.91316 (30, 1)
6000.0 /	179.45879 (30, 1)	203.18994 (30, 1)	211.77837 (30, 1)	203.19029 (30, 1)	179.45941 (30, 1)
5000.0 /	173.36122 (26, 1)	196.99658 (31, 1)	208.68008 (31, 1)	196.99698 (31, 1)	173.36153 (26, 1)
4000.0 /	173.37939 (26, 1)	194.41685 (26, 1)	205.12469 (31, 1)	194.41705 (26, 1)	173.37976 (26, 1)
3000.0 /	151.59354 (25, 1)	182.57632 (25, 1)	199.54880 (33, 1)	182.57655 (25, 1)	151.59393 (25, 1)
2000.0 /	125.72368 (22, 1)	157.75162 (22, 1)	174.82700 (27, 1)	157.75179 (22, 1)	125.72395 (22, 1)
1000.0 /	137.52249 (14, 1)	214.08473 (22, 1)	277.82501 (22, 1)	214.08513 (22, 1)	137.52271 (14, 1)

1

2ND HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 2,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.04718	(25, 1)
0.0	50.0	0.39003	(25, 1)	50.0	50.0	0.04718	(25, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.07136	(30, 1)
-50.0	100.0	9.18779	(30, 1)	0.0	100.0	31.54157	(25, 1)
50.0	100.0	9.18780	(30, 1)	100.0	100.0	0.07136	(30, 1)
-100.0	200.0	0.19780	(3, 1)	-50.0	200.0	11.28348	(15, 1)
0.0	200.0	110.24426	(23, 1)	50.0	200.0	11.28351	(15, 1)
100.0	200.0	0.19797	(3, 1)	-100.0	300.0	12.39972	(8, 1)
-50.0	300.0	55.03257	(24, 1)	0.0	300.0	322.66162	(23, 1)
50.0	300.0	55.03285	(24, 1)	100.0	300.0	12.39974	(8, 1)
-100.0	400.0	54.32887	(8, 1)	-50.0	400.0	137.68906	(24, 1)
0.0	400.0	407.12994	(23, 1)	50.0	400.0	137.68959	(24, 1)
100.0	400.0	54.32895	(8, 1)	-100.0	500.0	102.24500	(8, 1)
-50.0	500.0	198.26816	(24, 1)	0.0	500.0	425.10806	(23, 1)
50.0	500.0	198.26877	(24, 1)	100.0	500.0	102.24512	(8, 1)
-100.0	600.0	141.79939	(3, 1)	-50.0	600.0	228.91725	(24, 1)
0.0	600.0	413.21301	(23, 1)	50.0	600.0	228.91791	(24, 1)
100.0	600.0	141.79948	(3, 1)	-100.0	700.0	139.26460	(8, 1)
-50.0	700.0	236.17921	(15, 1)	0.0	700.0	387.15115	(23, 1)
50.0	700.0	236.17947	(15, 1)	100.0	700.0	139.26472	(8, 1)
-100.0	800.0	137.55338	(8, 1)	-50.0	800.0	234.34229	(24, 1)
0.0	800.0	349.50211	(24, 1)	50.0	800.0	234.34280	(24, 1)
100.0	800.0	137.55350	(8, 1)	-100.0	900.0	137.89189	(14, 1)
-50.0	900.0	224.21463	(24, 1)	0.0	900.0	309.74335	(24, 1)
50.0	900.0	224.21509	(24, 1)	100.0	900.0	137.89212	(14, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 3, 13, -16,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 9203.99805 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS)	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0	288.40100 (30, 1)	291.26962 (30, 1)	292.23224 (30, 1)	291.26981 (30, 1)	288.40131 (30, 1)
24000.0	302.10516 (30, 1)	305.33243 (30, 1)	306.41589 (30, 1)	305.33261 (30, 1)	302.10550 (30, 1)
23000.0	317.05225 (30, 1)	320.70102 (30, 1)	321.92664 (30, 1)	320.70120 (30, 1)	317.05264 (30, 1)
22000.0	333.41193 (30, 1)	337.55948 (30, 1)	338.95349 (30, 1)	337.55969 (30, 1)	333.41232 (30, 1)
21000.0	351.38525 (30, 1)	356.12753 (30, 1)	357.72253 (30, 1)	356.12778 (30, 1)	351.38571 (30, 1)
20000.0	371.21222 (30, 1)	376.66943 (30, 1)	378.50635 (30, 1)	376.66968 (30, 1)	371.21271 (30, 1)
19000.0	393.18103 (30, 1)	399.50543 (30, 1)	401.63620 (30, 1)	399.50574 (30, 1)	393.18158 (30, 1)
18000.0	417.64099 (30, 1)	425.02783 (30, 1)	427.51913 (30, 1)	425.02814 (30, 1)	417.64163 (30, 1)
17000.0	445.01874 (30, 1)	453.72144 (30, 1)	456.66010 (30, 1)	453.72180 (30, 1)	445.01941 (30, 1)
16000.0	475.83990 (30, 1)	486.19250 (30, 1)	489.69336 (30, 1)	486.19287 (30, 1)	475.84070 (30, 1)
15000.0	510.08417 (30, 1)	522.51727 (30, 1)	526.72876 (30, 1)	522.51770 (30, 1)	510.08502 (30, 1)
14000.0	551.93475 (30, 1)	567.12817 (30, 1)	572.28522 (30, 1)	567.12866 (30, 1)	551.93573 (30, 1)
13000.0	600.96027 (30, 1)	619.81543 (30, 1)	626.23126 (30, 1)	619.81598 (30, 1)	600.96136 (30, 1)
12000.0	658.05902 (30, 1)	681.84467 (30, 1)	689.96295 (30, 1)	681.84534 (30, 1)	658.06030 (30, 1)
11000.0	725.19446 (30, 1)	755.77515 (30, 1)	766.25299 (30, 1)	755.77594 (30, 1)	725.19592 (30, 1)
10000.0	804.94971 (30, 1)	845.15302 (30, 1)	858.99597 (30, 1)	845.15393 (30, 1)	804.95154 (30, 1)
9000.0	900.74438 (30, 1)	955.01764 (30, 1)	973.82654 (30, 1)	955.01880 (30, 1)	900.74658 (30, 1)
8000.0	1017.09497 (30, 1)	1092.74341 (30, 1)	1119.19080 (30, 1)	1092.74475 (30, 1)	1017.09766 (30, 1)
7000.0	1158.30518 (30, 1)	1267.82202 (30, 1)	1306.58411 (30, 1)	1267.82385 (30, 1)	1158.30847 (30, 1)
6000.0	1336.41248 (30, 1)	1503.47510 (30, 1)	1563.68518 (30, 1)	1503.47754 (30, 1)	1336.41675 (30, 1)
5000.0	1558.96204 (30, 1)	1831.17505 (30, 1)	1932.10498 (30, 1)	1831.17834 (30, 1)	1558.96765 (30, 1)
4000.0	1815.72815 (30, 1)	2296.93335 (30, 1)	2484.21631 (30, 1)	2296.93823 (30, 1)	1815.73560 (30, 1)
3000.0	2038.13354 (30, 1)	2982.35107 (30, 1)	3386.13428 (30, 1)	2982.35840 (30, 1)	2038.14355 (30, 1)
2000.0	2084.99121 (25, 1)	3964.06055 (30, 1)	5072.26172 (30, 1)	3964.07275 (30, 1)	2084.99756 (25, 1)
1000.0	2044.53784 (16, 1)	4988.44873 (25, 1)	9203.99805 (30, 1)	4988.45996 (25, 1)	2044.54370 (16, 1)

1

HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 3, 13, -16,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.00000	(0, 0)
0.0	50.0	0.00000	(0, 0)	50.0	50.0	0.00000	(0, 0)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.00000	(0, 0)
-50.0	100.0	372.58810	(1, 1)	0.0	100.0	1467.12903	(16, 1)
50.0	100.0	372.58832	(1, 1)	100.0	100.0	0.00000	(0, 0)
-100.0	200.0	196.96068	(1, 1)	-50.0	200.0	1105.57886	(4, 1)
0.0	200.0	3864.73779	(16, 1)	50.0	200.0	1105.57971	(4, 1)
100.0	200.0	196.96094	(1, 1)	-100.0	300.0	522.51056	(1, 1)
-50.0	300.0	3107.57178	(4, 1)	0.0	300.0	13287.92188	(16, 1)
50.0	300.0	3107.57422	(4, 1)	100.0	300.0	522.51111	(1, 1)
-100.0	400.0	903.96857	(1, 1)	-50.0	400.0	4900.97412	(4, 1)
0.0	400.0	17772.42969	(16, 1)	50.0	400.0	4900.97754	(4, 1)
100.0	400.0	903.96936	(1, 1)	-100.0	500.0	1485.00269	(4, 1)
-50.0	500.0	5301.56494	(9, 1)	0.0	500.0	14820.29883	(30, 1)
50.0	500.0	5301.57129	(9, 1)	100.0	500.0	1485.00488	(4, 1)
-100.0	600.0	1700.76123	(4, 1)	-50.0	600.0	5586.18994	(16, 1)
0.0	600.0	13212.89551	(30, 1)	50.0	600.0	5586.19922	(16, 1)
100.0	600.0	1700.76318	(4, 1)	-100.0	700.0	1739.58862	(9, 1)
-50.0	700.0	5590.37500	(16, 1)	0.0	700.0	11921.55371	(30, 1)
50.0	700.0	5590.38428	(16, 1)	100.0	700.0	1739.59180	(9, 1)
-100.0	800.0	1825.69824	(9, 1)	-50.0	800.0	5330.01465	(16, 1)
0.0	800.0	10859.65430	(30, 1)	50.0	800.0	5330.02344	(16, 1)
100.0	800.0	1825.70129	(9, 1)	-100.0	900.0	1860.08276	(16, 1)
-50.0	900.0	5102.91699	(25, 1)	0.0	900.0	9966.87598	(30, 1)
50.0	900.0	5102.92871	(25, 1)	100.0	900.0	1860.08838	(16, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 3, 13, -16,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 7589.65479 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	144.20050 (31, 1)	145.63481 (31, 1)	146.11612 (31, 1)	145.63490 (31, 1)	144.20065 (31, 1)
24000.0 /	151.05258 (31, 1)	152.66621 (31, 1)	153.20795 (31, 1)	152.66631 (31, 1)	151.05275 (31, 1)
23000.0 /	158.52612 (31, 1)	160.35051 (31, 1)	160.96332 (31, 1)	160.35060 (31, 1)	158.52632 (31, 1)
22000.0 /	166.70596 (31, 1)	168.77974 (31, 1)	169.47675 (31, 1)	168.77985 (31, 1)	166.70616 (31, 1)
21000.0 /	175.69263 (31, 1)	178.06377 (31, 1)	178.86127 (31, 1)	178.06389 (31, 1)	175.69286 (31, 1)
20000.0 /	185.60611 (31, 1)	188.33472 (31, 1)	189.25317 (31, 1)	188.33484 (31, 1)	185.60635 (31, 1)
19000.0 /	196.59052 (31, 1)	199.75272 (31, 1)	200.81810 (31, 1)	199.75287 (31, 1)	196.59079 (31, 1)
18000.0 /	208.82050 (31, 1)	212.51392 (31, 1)	213.75957 (31, 1)	212.51407 (31, 1)	208.82082 (31, 1)
17000.0 /	222.50937 (31, 1)	226.86072 (31, 1)	228.33005 (31, 1)	226.86090 (31, 1)	222.50970 (31, 1)
16000.0 /	237.91995 (31, 1)	243.09625 (31, 1)	244.84668 (31, 1)	243.09644 (31, 1)	237.92035 (31, 1)
15000.0 /	255.04208 (31, 1)	261.25864 (31, 1)	263.36438 (31, 1)	261.25885 (31, 1)	255.04251 (31, 1)
14000.0 /	275.96738 (31, 1)	283.56409 (31, 1)	286.14261 (31, 1)	283.56433 (31, 1)	275.96786 (31, 1)
13000.0 /	300.48013 (31, 1)	309.90771 (31, 1)	313.11563 (31, 1)	309.90799 (31, 1)	300.48068 (31, 1)
12000.0 /	329.02951 (31, 1)	340.92233 (31, 1)	344.98148 (31, 1)	340.92267 (31, 1)	329.03015 (31, 1)
11000.0 /	362.59723 (31, 1)	377.88757 (31, 1)	383.12650 (31, 1)	377.88797 (31, 1)	362.59796 (31, 1)
10000.0 /	408.66602 (25, 1)	422.57651 (31, 1)	429.49799 (31, 1)	422.57697 (31, 1)	408.66644 (25, 1)
9000.0 /	468.13074 (25, 1)	480.86328 (25, 1)	486.91327 (31, 1)	480.86356 (25, 1)	468.13129 (25, 1)
8000.0 /	544.08136 (25, 1)	562.35968 (25, 1)	568.58807 (25, 1)	562.35999 (25, 1)	544.08203 (25, 1)
7000.0 /	643.22308 (25, 1)	670.70422 (25, 1)	680.12335 (25, 1)	670.70465 (25, 1)	643.22388 (25, 1)
6000.0 /	776.40619 (25, 1)	820.25305 (25, 1)	835.41284 (25, 1)	820.25366 (25, 1)	776.40735 (25, 1)
5000.0 /	961.21765 (25, 1)	1036.92517 (25, 1)	1063.46533 (25, 1)	1036.92590 (25, 1)	961.21936 (25, 1)
4000.0 /	1221.44043 (25, 1)	1366.73682 (25, 1)	1418.92017 (25, 1)	1366.73816 (25, 1)	1221.44287 (25, 1)
3000.0 /	1616.23682 (25, 1)	1947.72485 (25, 1)	2072.74072 (25, 1)	1947.72729 (25, 1)	1616.24084 (25, 1)
2000.0 /	1895.83997 (30, 1)	3046.73608 (25, 1)	3458.04736 (25, 1)	3046.74072 (25, 1)	1895.85156 (30, 1)
1000.0 /	1680.24988 (9, 1)	4613.12354 (16, 1)	7589.65479 (25, 1)	4613.13037 (16, 1)	1680.25244 (9, 1)

1

2ND HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 3, 13, -16,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.00000	(0, 0)
0.0	50.0	0.00000	(0, 0)	50.0	50.0	0.00000	(0, 0)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.00000	(0, 0)
-50.0	100.0	320.97852	(4, 1)	0.0	100.0	1365.04919	(25, 1)
50.0	100.0	320.97888	(4, 1)	100.0	100.0	0.00000	(0, 0)
-100.0	200.0	109.36665	(4, 1)	-50.0	200.0	1050.54175	(1, 1)
0.0	200.0	3699.05762	(25, 1)	50.0	200.0	1050.54224	(1, 1)
100.0	200.0	109.36684	(4, 1)	-100.0	300.0	395.32202	(4, 1)
-50.0	300.0	2998.97827	(1, 1)	0.0	300.0	12574.69922	(25, 1)
50.0	300.0	2998.97974	(1, 1)	100.0	300.0	395.32248	(4, 1)
-100.0	400.0	870.07886	(4, 1)	-50.0	400.0	4647.23779	(9, 1)
0.0	400.0	17247.35742	(25, 1)	50.0	400.0	4647.24316	(9, 1)
100.0	400.0	870.08008	(4, 1)	-100.0	500.0	1281.43115	(1, 1)
-50.0	500.0	5079.49219	(16, 1)	0.0	500.0	14384.99414	(25, 1)
50.0	500.0	5079.50098	(16, 1)	100.0	500.0	1281.43225	(1, 1)
-100.0	600.0	1448.34033	(9, 1)	-50.0	600.0	4915.14502	(9, 1)
0.0	600.0	12306.60840	(25, 1)	50.0	600.0	4915.14990	(9, 1)
100.0	600.0	1448.34326	(9, 1)	-100.0	700.0	1583.69092	(4, 1)
-50.0	700.0	4986.01514	(25, 1)	0.0	700.0	10717.30859	(25, 1)
50.0	700.0	4986.02686	(25, 1)	100.0	700.0	1583.69238	(4, 1)
-100.0	800.0	1576.33154	(16, 1)	-50.0	800.0	5124.81445	(25, 1)
0.0	800.0	9454.73926	(25, 1)	50.0	800.0	5124.82715	(25, 1)
100.0	800.0	1576.33630	(16, 1)	-100.0	900.0	1784.42212	(9, 1)
-50.0	900.0	4984.35352	(16, 1)	0.0	900.0	8429.91895	(25, 1)
50.0	900.0	4984.36133	(16, 1)	100.0	900.0	1784.42480	(9, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 4,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 174.95212 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS / (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	87.58935 (30, 1)	88.47592 (30, 1)	88.77345 (30, 1)	88.47598 (30, 1)	87.58945 (30, 1)
24000.0 /	89.35842 (30, 1)	90.33049 (30, 1)	90.65688 (30, 1)	90.33054 (30, 1)	89.35853 (30, 1)
23000.0 /	91.18178 (30, 1)	92.25116 (30, 1)	92.61041 (30, 1)	92.25121 (30, 1)	91.18189 (30, 1)
22000.0 /	93.05883 (30, 1)	94.23950 (30, 1)	94.63640 (30, 1)	94.23956 (30, 1)	93.05895 (30, 1)
21000.0 /	94.98804 (30, 1)	96.29667 (30, 1)	96.73689 (30, 1)	96.29673 (30, 1)	94.98817 (30, 1)
20000.0 /	96.96651 (30, 1)	98.42309 (30, 1)	98.91348 (30, 1)	98.42316 (30, 1)	96.96664 (30, 1)
19000.0 /	98.98949 (30, 1)	100.61819 (30, 1)	101.16705 (30, 1)	100.61826 (30, 1)	98.98963 (30, 1)
18000.0 /	101.04966 (30, 1)	102.87996 (30, 1)	103.49742 (30, 1)	102.88004 (30, 1)	101.04981 (30, 1)
17000.0 /	103.13624 (30, 1)	105.20440 (30, 1)	105.90299 (30, 1)	105.20448 (30, 1)	103.13640 (30, 1)
16000.0 /	105.23359 (30, 1)	107.58467 (30, 1)	108.38001 (30, 1)	107.58476 (30, 1)	105.23376 (30, 1)
15000.0 /	107.31924 (30, 1)	110.00985 (30, 1)	110.92165 (30, 1)	110.00994 (30, 1)	107.31944 (30, 1)
14000.0 /	108.22315 (30, 1)	111.29296 (30, 1)	112.33549 (30, 1)	111.29307 (30, 1)	108.22335 (30, 1)
13000.0 /	112.50182 (25, 1)	114.10545 (25, 1)	114.64506 (25, 1)	114.10549 (25, 1)	112.50192 (25, 1)
12000.0 /	117.06507 (25, 1)	118.98976 (25, 1)	119.63835 (25, 1)	118.98981 (25, 1)	117.06518 (25, 1)
11000.0 /	121.64271 (25, 1)	123.97901 (25, 1)	124.76773 (25, 1)	123.97907 (25, 1)	121.64282 (25, 1)
10000.0 /	126.08886 (25, 1)	128.96109 (25, 1)	129.93298 (25, 1)	128.96115 (25, 1)	126.08899 (25, 1)
9000.0 /	129.52583 (25, 1)	133.09036 (25, 1)	134.30023 (25, 1)	133.09044 (25, 1)	129.52597 (25, 1)
8000.0 /	131.88516 (25, 1)	136.37143 (25, 1)	137.90054 (25, 1)	136.37152 (25, 1)	131.88533 (25, 1)
7000.0 /	132.42842 (25, 1)	138.16147 (25, 1)	140.12714 (25, 1)	138.16156 (25, 1)	132.42860 (25, 1)
6000.0 /	130.01790 (25, 1)	137.46245 (25, 1)	140.03754 (25, 1)	137.46255 (25, 1)	130.01811 (25, 1)
5000.0 /	122.92905 (25, 1)	132.74670 (25, 1)	136.19055 (25, 1)	132.74683 (25, 1)	122.92928 (25, 1)
4000.0 /	108.66100 (25, 1)	121.75149 (25, 1)	126.45654 (25, 1)	121.75162 (25, 1)	108.66123 (25, 1)
3000.0 /	86.88644 (10, 1)	96.98506 (26, 1)	103.35468 (26, 1)	96.98519 (26, 1)	86.88651 (10, 1)
2000.0 /	108.41728 (5, 1)	113.30823 (5, 1)	122.21285 (22, 1)	113.30825 (5, 1)	108.41733 (5, 1)
1000.0 /	147.79044 (2, 1)	160.13832 (2, 1)	174.95212 (23, 1)	160.13835 (2, 1)	147.79048 (2, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 4,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.00000	(30, 1)
0.0	50.0	0.00043	(30, 1)	50.0	50.0	0.00000	(30, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.01115	(25, 1)
-50.0	100.0	0.75000	(25, 1)	0.0	100.0	3.94124	(30, 1)
50.0	100.0	0.75003	(25, 1)	100.0	100.0	0.01115	(25, 1)
-100.0	200.0	0.05568	(3, 1)	-50.0	200.0	1.59024	(25, 1)
0.0	200.0	6.86251	(15, 1)	50.0	200.0	1.59024	(25, 1)
100.0	200.0	0.05574	(3, 1)	-100.0	300.0	10.64503	(3, 1)
-50.0	300.0	25.00329	(15, 1)	0.0	300.0	69.19481	(15, 1)
50.0	300.0	25.00334	(15, 1)	100.0	300.0	10.64503	(3, 1)
-100.0	400.0	63.28473	(3, 1)	-50.0	400.0	94.09603	(3, 1)
0.0	400.0	144.46127	(15, 1)	50.0	400.0	94.09606	(3, 1)
100.0	400.0	63.28477	(3, 1)	-100.0	500.0	116.42081	(3, 1)
-50.0	500.0	152.37558	(3, 1)	0.0	500.0	188.60384	(15, 1)
50.0	500.0	152.37563	(3, 1)	100.0	500.0	116.42089	(3, 1)
-100.0	600.0	135.35229	(2, 1)	-50.0	600.0	162.04993	(2, 1)
0.0	600.0	202.97829	(15, 1)	50.0	600.0	162.04997	(2, 1)
100.0	600.0	135.35236	(2, 1)	-100.0	700.0	164.65846	(2, 1)
-50.0	700.0	189.81834	(2, 1)	0.0	700.0	199.32382	(15, 1)
50.0	700.0	189.81839	(2, 1)	100.0	700.0	164.65854	(2, 1)
-100.0	800.0	166.71085	(2, 1)	-50.0	800.0	187.06645	(2, 1)
0.0	800.0	194.38972	(2, 1)	50.0	800.0	187.06650	(2, 1)
100.0	800.0	166.71091	(2, 1)	-100.0	900.0	157.74278	(2, 1)
-50.0	900.0	173.51732	(2, 1)	0.0	900.0	179.11859	(2, 1)
50.0	900.0	173.51736	(2, 1)	100.0	900.0	157.74284	(2, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 4,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 167.54131 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	71.00471 (25, 1)	71.32266 (25, 1)	71.42897 (25, 1)	71.32268 (25, 1)	71.00475 (25, 1)
24000.0 /	73.47922 (25, 1)	73.83277 (25, 1)	73.95100 (25, 1)	73.83279 (25, 1)	73.47926 (25, 1)
23000.0 /	76.11379 (25, 1)	76.50854 (25, 1)	76.64058 (25, 1)	76.50856 (25, 1)	76.11384 (25, 1)
22000.0 /	78.92319 (25, 1)	79.36588 (25, 1)	79.51400 (25, 1)	79.36591 (25, 1)	78.92323 (25, 1)
21000.0 /	81.92381 (25, 1)	82.42265 (25, 1)	82.58961 (25, 1)	82.42268 (25, 1)	81.92386 (25, 1)
20000.0 /	85.13392 (25, 1)	85.69896 (25, 1)	85.88815 (25, 1)	85.69898 (25, 1)	85.13397 (25, 1)
19000.0 /	88.46156 (25, 1)	89.10442 (25, 1)	89.31975 (25, 1)	89.10445 (25, 1)	88.46162 (25, 1)
18000.0 /	91.98183 (25, 1)	92.71738 (25, 1)	92.96389 (25, 1)	92.71741 (25, 1)	91.98189 (25, 1)
17000.0 /	95.70094 (25, 1)	96.54779 (25, 1)	96.83175 (25, 1)	96.54782 (25, 1)	95.70100 (25, 1)
16000.0 /	99.62140 (25, 1)	100.60302 (25, 1)	100.93238 (25, 1)	100.60306 (25, 1)	99.62148 (25, 1)
15000.0 /	103.73967 (25, 1)	104.88599 (25, 1)	105.27092 (25, 1)	104.88603 (25, 1)	103.73975 (25, 1)
14000.0 /	108.04262 (25, 1)	109.39230 (25, 1)	109.84594 (25, 1)	109.39234 (25, 1)	108.04271 (25, 1)
13000.0 /	108.78807 (30, 1)	112.31257 (30, 1)	113.51263 (30, 1)	112.31268 (30, 1)	108.78828 (30, 1)
12000.0 /	108.90911 (30, 1)	112.98376 (30, 1)	114.37561 (30, 1)	112.98388 (30, 1)	108.90934 (30, 1)
11000.0 /	108.44267 (30, 1)	113.18929 (30, 1)	114.81725 (30, 1)	113.18941 (30, 1)	108.44292 (30, 1)
10000.0 /	107.19963 (30, 1)	112.77541 (30, 1)	114.69776 (30, 1)	112.77554 (30, 1)	107.19989 (30, 1)
9000.0 /	104.92931 (30, 1)	111.53940 (30, 1)	113.83408 (30, 1)	111.53954 (30, 1)	104.92959 (30, 1)
8000.0 /	101.29798 (30, 1)	109.21279 (30, 1)	111.98623 (30, 1)	109.21294 (30, 1)	101.29827 (30, 1)
7000.0 /	102.33746 (26, 1)	106.78501 (26, 1)	108.83927 (30, 1)	106.78509 (26, 1)	102.33760 (26, 1)
6000.0 /	105.31876 (26, 1)	111.38010 (26, 1)	113.47712 (26, 1)	111.38018 (26, 1)	105.31893 (26, 1)
5000.0 /	105.44308 (26, 1)	113.92474 (26, 1)	116.90098 (26, 1)	113.92484 (26, 1)	105.44327 (26, 1)
4000.0 /	99.94915 (26, 1)	112.12103 (26, 1)	116.49927 (26, 1)	112.12114 (26, 1)	99.94936 (26, 1)
3000.0 /	83.49811 (5, 1)	95.77966 (25, 1)	101.96129 (25, 1)	95.77978 (25, 1)	83.49813 (5, 1)
2000.0 /	93.59794 (12, 1)	113.29238 (22, 1)	122.13592 (21, 1)	113.29250 (22, 1)	93.59802 (12, 1)
1000.0 /	109.24471 (7, 1)	149.28383 (14, 1)	167.54131 (14, 1)	149.28395 (14, 1)	109.24477 (7, 1)

1

2ND HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 4,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.00000	(25, 1)
0.0	50.0	0.00004	(25, 1)	50.0	50.0	0.00000	(25, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.00077	(30, 1)
-50.0	100.0	0.46654	(30, 1)	0.0	100.0	3.04985	(25, 1)
50.0	100.0	0.46654	(30, 1)	100.0	100.0	0.00077	(30, 1)
-100.0	200.0	0.04333	(25, 1)	-50.0	200.0	0.81967	(15, 1)
0.0	200.0	6.55479	(24, 1)	50.0	200.0	0.81967	(15, 1)
100.0	200.0	0.04333	(25, 1)	-100.0	300.0	4.53355	(8, 1)
-50.0	300.0	20.47062	(3, 1)	0.0	300.0	66.72855	(24, 1)
50.0	300.0	20.47063	(3, 1)	100.0	300.0	4.53356	(8, 1)
-100.0	400.0	29.30157	(8, 1)	-50.0	400.0	78.97354	(15, 1)
0.0	400.0	129.18350	(24, 1)	50.0	400.0	78.97366	(15, 1)
100.0	400.0	29.30161	(8, 1)	-100.0	500.0	75.51898	(2, 1)
-50.0	500.0	126.06358	(15, 1)	0.0	500.0	166.67752	(3, 1)
50.0	500.0	126.06376	(15, 1)	100.0	500.0	75.51903	(2, 1)
-100.0	600.0	128.86487	(3, 1)	-50.0	600.0	156.87366	(3, 1)
0.0	600.0	183.55965	(24, 1)	50.0	600.0	156.87370	(3, 1)
100.0	600.0	128.86493	(3, 1)	-100.0	700.0	122.70767	(3, 1)
-50.0	700.0	159.93648	(15, 1)	0.0	700.0	199.03200	(2, 1)
50.0	700.0	159.93665	(15, 1)	100.0	700.0	122.70773	(3, 1)
-100.0	800.0	114.76210	(3, 1)	-50.0	800.0	158.04861	(15, 1)
0.0	800.0	187.97322	(15, 1)	50.0	800.0	158.04877	(15, 1)
100.0	800.0	114.76215	(3, 1)	-100.0	900.0	111.31912	(7, 1)
-50.0	900.0	154.89825	(14, 1)	0.0	900.0	178.33609	(23, 1)
50.0	900.0	154.89839	(14, 1)	100.0	900.0	111.31921	(7, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 5,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 174.95212 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS / (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	87.58935 (30, 1)	88.47592 (30, 1)	88.77345 (30, 1)	88.47598 (30, 1)	87.58945 (30, 1)
24000.0 /	89.35842 (30, 1)	90.33049 (30, 1)	90.65688 (30, 1)	90.33054 (30, 1)	89.35853 (30, 1)
23000.0 /	91.18178 (30, 1)	92.25116 (30, 1)	92.61041 (30, 1)	92.25121 (30, 1)	91.18189 (30, 1)
22000.0 /	93.05883 (30, 1)	94.23950 (30, 1)	94.63640 (30, 1)	94.23956 (30, 1)	93.05895 (30, 1)
21000.0 /	94.98804 (30, 1)	96.29667 (30, 1)	96.73689 (30, 1)	96.29673 (30, 1)	94.98817 (30, 1)
20000.0 /	96.96651 (30, 1)	98.42309 (30, 1)	98.91348 (30, 1)	98.42316 (30, 1)	96.96664 (30, 1)
19000.0 /	98.98949 (30, 1)	100.61819 (30, 1)	101.16705 (30, 1)	100.61826 (30, 1)	98.98963 (30, 1)
18000.0 /	101.04966 (30, 1)	102.87996 (30, 1)	103.49742 (30, 1)	102.88004 (30, 1)	101.04981 (30, 1)
17000.0 /	103.13624 (30, 1)	105.20440 (30, 1)	105.90299 (30, 1)	105.20448 (30, 1)	103.13640 (30, 1)
16000.0 /	105.23359 (30, 1)	107.58467 (30, 1)	108.38001 (30, 1)	107.58476 (30, 1)	105.23376 (30, 1)
15000.0 /	107.31924 (30, 1)	110.00985 (30, 1)	110.92165 (30, 1)	110.00994 (30, 1)	107.31944 (30, 1)
14000.0 /	108.22315 (30, 1)	111.29296 (30, 1)	112.33549 (30, 1)	111.29307 (30, 1)	108.22335 (30, 1)
13000.0 /	112.50182 (25, 1)	114.10545 (25, 1)	114.64506 (25, 1)	114.10549 (25, 1)	112.50192 (25, 1)
12000.0 /	117.06507 (25, 1)	118.98976 (25, 1)	119.63835 (25, 1)	118.98981 (25, 1)	117.06518 (25, 1)
11000.0 /	121.64271 (25, 1)	123.97901 (25, 1)	124.76773 (25, 1)	123.97907 (25, 1)	121.64282 (25, 1)
10000.0 /	126.08886 (25, 1)	128.96109 (25, 1)	129.93298 (25, 1)	128.96115 (25, 1)	126.08899 (25, 1)
9000.0 /	129.52583 (25, 1)	133.09036 (25, 1)	134.30023 (25, 1)	133.09044 (25, 1)	129.52597 (25, 1)
8000.0 /	131.88516 (25, 1)	136.37143 (25, 1)	137.90054 (25, 1)	136.37152 (25, 1)	131.88533 (25, 1)
7000.0 /	132.42842 (25, 1)	138.16147 (25, 1)	140.12714 (25, 1)	138.16156 (25, 1)	132.42860 (25, 1)
6000.0 /	130.01790 (25, 1)	137.46245 (25, 1)	140.03754 (25, 1)	137.46255 (25, 1)	130.01811 (25, 1)
5000.0 /	122.92905 (25, 1)	132.74670 (25, 1)	136.19055 (25, 1)	132.74683 (25, 1)	122.92928 (25, 1)
4000.0 /	108.66100 (25, 1)	121.75149 (25, 1)	126.45654 (25, 1)	121.75162 (25, 1)	108.66123 (25, 1)
3000.0 /	86.88644 (10, 1)	96.98506 (26, 1)	103.35468 (26, 1)	96.98519 (26, 1)	86.88651 (10, 1)
2000.0 /	108.41728 (5, 1)	113.30823 (5, 1)	122.21285 (22, 1)	113.30825 (5, 1)	108.41733 (5, 1)
1000.0 /	147.79044 (2, 1)	160.13832 (2, 1)	174.95212 (23, 1)	160.13835 (2, 1)	147.79048 (2, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 5,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.00000	(30, 1)
0.0	50.0	0.00043	(30, 1)	50.0	50.0	0.00000	(30, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.01115	(25, 1)
-50.0	100.0	0.75000	(25, 1)	0.0	100.0	3.94124	(30, 1)
50.0	100.0	0.75003	(25, 1)	100.0	100.0	0.01115	(25, 1)
-100.0	200.0	0.05568	(3, 1)	-50.0	200.0	1.59024	(25, 1)
0.0	200.0	6.86251	(15, 1)	50.0	200.0	1.59024	(25, 1)
100.0	200.0	0.05574	(3, 1)	-100.0	300.0	10.64503	(3, 1)
-50.0	300.0	25.00329	(15, 1)	0.0	300.0	69.19481	(15, 1)
50.0	300.0	25.00334	(15, 1)	100.0	300.0	10.64503	(3, 1)
-100.0	400.0	63.28473	(3, 1)	-50.0	400.0	94.09603	(3, 1)
0.0	400.0	144.46127	(15, 1)	50.0	400.0	94.09606	(3, 1)
100.0	400.0	63.28477	(3, 1)	-100.0	500.0	116.42081	(3, 1)
-50.0	500.0	152.37558	(3, 1)	0.0	500.0	188.60384	(15, 1)
50.0	500.0	152.37563	(3, 1)	100.0	500.0	116.42089	(3, 1)
-100.0	600.0	135.35229	(2, 1)	-50.0	600.0	162.04993	(2, 1)
0.0	600.0	202.97829	(15, 1)	50.0	600.0	162.04997	(2, 1)
100.0	600.0	135.35236	(2, 1)	-100.0	700.0	164.65846	(2, 1)
-50.0	700.0	189.81834	(2, 1)	0.0	700.0	199.32382	(15, 1)
50.0	700.0	189.81839	(2, 1)	100.0	700.0	164.65854	(2, 1)
-100.0	800.0	166.71085	(2, 1)	-50.0	800.0	187.06645	(2, 1)
0.0	800.0	194.38972	(2, 1)	50.0	800.0	187.06650	(2, 1)
100.0	800.0	166.71091	(2, 1)	-100.0	900.0	157.74278	(2, 1)
-50.0	900.0	173.51732	(2, 1)	0.0	900.0	179.11859	(2, 1)
50.0	900.0	173.51736	(2, 1)	100.0	900.0	157.74284	(2, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 5,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 167.54131 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS / (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	71.00471 (25, 1)	71.32266 (25, 1)	71.42897 (25, 1)	71.32268 (25, 1)	71.00475 (25, 1)
24000.0 /	73.47922 (25, 1)	73.83277 (25, 1)	73.95100 (25, 1)	73.83279 (25, 1)	73.47926 (25, 1)
23000.0 /	76.11379 (25, 1)	76.50854 (25, 1)	76.64058 (25, 1)	76.50856 (25, 1)	76.11384 (25, 1)
22000.0 /	78.92319 (25, 1)	79.36588 (25, 1)	79.51400 (25, 1)	79.36591 (25, 1)	78.92323 (25, 1)
21000.0 /	81.92381 (25, 1)	82.42265 (25, 1)	82.58961 (25, 1)	82.42268 (25, 1)	81.92386 (25, 1)
20000.0 /	85.13392 (25, 1)	85.69896 (25, 1)	85.88815 (25, 1)	85.69898 (25, 1)	85.13397 (25, 1)
19000.0 /	88.46156 (25, 1)	89.10442 (25, 1)	89.31975 (25, 1)	89.10445 (25, 1)	88.46162 (25, 1)
18000.0 /	91.98183 (25, 1)	92.71738 (25, 1)	92.96389 (25, 1)	92.71741 (25, 1)	91.98189 (25, 1)
17000.0 /	95.70094 (25, 1)	96.54779 (25, 1)	96.83175 (25, 1)	96.54782 (25, 1)	95.70100 (25, 1)
16000.0 /	99.62140 (25, 1)	100.60302 (25, 1)	100.93238 (25, 1)	100.60306 (25, 1)	99.62148 (25, 1)
15000.0 /	103.73967 (25, 1)	104.88599 (25, 1)	105.27092 (25, 1)	104.88603 (25, 1)	103.73975 (25, 1)
14000.0 /	108.04262 (25, 1)	109.39230 (25, 1)	109.84594 (25, 1)	109.39234 (25, 1)	108.04271 (25, 1)
13000.0 /	108.78807 (30, 1)	112.31257 (30, 1)	113.51263 (30, 1)	112.31268 (30, 1)	108.78828 (30, 1)
12000.0 /	108.90911 (30, 1)	112.98376 (30, 1)	114.37561 (30, 1)	112.98388 (30, 1)	108.90934 (30, 1)
11000.0 /	108.44267 (30, 1)	113.18929 (30, 1)	114.81725 (30, 1)	113.18941 (30, 1)	108.44292 (30, 1)
10000.0 /	107.19963 (30, 1)	112.77541 (30, 1)	114.69776 (30, 1)	112.77554 (30, 1)	107.19989 (30, 1)
9000.0 /	104.92931 (30, 1)	111.53940 (30, 1)	113.83408 (30, 1)	111.53954 (30, 1)	104.92959 (30, 1)
8000.0 /	101.29798 (30, 1)	109.21279 (30, 1)	111.98623 (30, 1)	109.21294 (30, 1)	101.29827 (30, 1)
7000.0 /	102.33746 (26, 1)	106.78501 (26, 1)	108.83927 (30, 1)	106.78509 (26, 1)	102.33760 (26, 1)
6000.0 /	105.31876 (26, 1)	111.38010 (26, 1)	113.47712 (26, 1)	111.38018 (26, 1)	105.31893 (26, 1)
5000.0 /	105.44308 (26, 1)	113.92474 (26, 1)	116.90098 (26, 1)	113.92484 (26, 1)	105.44327 (26, 1)
4000.0 /	99.94915 (26, 1)	112.12103 (26, 1)	116.49927 (26, 1)	112.12114 (26, 1)	99.94936 (26, 1)
3000.0 /	83.49811 (5, 1)	95.77966 (25, 1)	101.96129 (25, 1)	95.77978 (25, 1)	83.49813 (5, 1)
2000.0 /	93.59794 (12, 1)	113.29238 (22, 1)	122.13592 (21, 1)	113.29250 (22, 1)	93.59802 (12, 1)
1000.0 /	109.24471 (7, 1)	149.28383 (14, 1)	167.54131 (14, 1)	149.28395 (14, 1)	109.24477 (7, 1)

1

2ND HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 5,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.00000	(25, 1)
0.0	50.0	0.00004	(25, 1)	50.0	50.0	0.00000	(25, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.00077	(30, 1)
-50.0	100.0	0.46654	(30, 1)	0.0	100.0	3.04985	(25, 1)
50.0	100.0	0.46654	(30, 1)	100.0	100.0	0.00077	(30, 1)
-100.0	200.0	0.04333	(25, 1)	-50.0	200.0	0.81967	(15, 1)
0.0	200.0	6.55479	(24, 1)	50.0	200.0	0.81967	(15, 1)
100.0	200.0	0.04333	(25, 1)	-100.0	300.0	4.53355	(8, 1)
-50.0	300.0	20.47062	(3, 1)	0.0	300.0	66.72855	(24, 1)
50.0	300.0	20.47063	(3, 1)	100.0	300.0	4.53356	(8, 1)
-100.0	400.0	29.30157	(8, 1)	-50.0	400.0	78.97354	(15, 1)
0.0	400.0	129.18350	(24, 1)	50.0	400.0	78.97366	(15, 1)
100.0	400.0	29.30161	(8, 1)	-100.0	500.0	75.51898	(2, 1)
-50.0	500.0	126.06358	(15, 1)	0.0	500.0	166.67752	(3, 1)
50.0	500.0	126.06376	(15, 1)	100.0	500.0	75.51903	(2, 1)
-100.0	600.0	128.86487	(3, 1)	-50.0	600.0	156.87366	(3, 1)
0.0	600.0	183.55965	(24, 1)	50.0	600.0	156.87370	(3, 1)
100.0	600.0	128.86493	(3, 1)	-100.0	700.0	122.70767	(3, 1)
-50.0	700.0	159.93648	(15, 1)	0.0	700.0	199.03200	(2, 1)
50.0	700.0	159.93665	(15, 1)	100.0	700.0	122.70773	(3, 1)
-100.0	800.0	114.76210	(3, 1)	-50.0	800.0	158.04861	(15, 1)
0.0	800.0	187.97322	(15, 1)	50.0	800.0	158.04877	(15, 1)
100.0	800.0	114.76215	(3, 1)	-100.0	900.0	111.31912	(7, 1)
-50.0	900.0	154.89825	(14, 1)	0.0	900.0	178.33609	(23, 1)
50.0	900.0	154.89839	(14, 1)	100.0	900.0	111.31921	(7, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 6,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 248.30002 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS / (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	122.58774 (30, 1)	123.82812 (30, 1)	124.24438 (30, 1)	123.82819 (30, 1)	122.58788 (30, 1)
24000.0 /	125.20988 (30, 1)	126.57143 (30, 1)	127.02858 (30, 1)	126.57150 (30, 1)	125.21003 (30, 1)
23000.0 /	127.92776 (30, 1)	129.42747 (30, 1)	129.93130 (30, 1)	129.42755 (30, 1)	127.92793 (30, 1)
22000.0 /	130.74374 (30, 1)	132.40179 (30, 1)	132.95917 (30, 1)	132.40189 (30, 1)	130.74391 (30, 1)
21000.0 /	133.65926 (30, 1)	135.49974 (30, 1)	136.11890 (30, 1)	135.49983 (30, 1)	133.65944 (30, 1)
20000.0 /	136.67459 (30, 1)	138.72655 (30, 1)	139.41739 (30, 1)	138.72664 (30, 1)	136.67477 (30, 1)
19000.0 /	139.78828 (30, 1)	142.08691 (30, 1)	142.86153 (30, 1)	142.08702 (30, 1)	139.78848 (30, 1)
18000.0 /	142.99637 (30, 1)	145.58478 (30, 1)	146.45799 (30, 1)	145.58490 (30, 1)	142.99658 (30, 1)
17000.0 /	146.29135 (30, 1)	149.22281 (30, 1)	150.21298 (30, 1)	149.22292 (30, 1)	146.29158 (30, 1)
16000.0 /	149.66055 (30, 1)	153.00154 (30, 1)	154.13174 (30, 1)	153.00166 (30, 1)	149.66080 (30, 1)
15000.0 /	153.08372 (30, 1)	156.91827 (30, 1)	158.21773 (30, 1)	156.91841 (30, 1)	153.08398 (30, 1)
14000.0 /	155.05168 (30, 1)	159.44539 (30, 1)	160.93750 (30, 1)	159.44553 (30, 1)	155.05196 (30, 1)
13000.0 /	156.66583 (30, 1)	161.73564 (30, 1)	163.46182 (30, 1)	161.73579 (30, 1)	156.66614 (30, 1)
12000.0 /	157.80034 (30, 1)	163.69635 (30, 1)	165.71028 (30, 1)	163.69652 (30, 1)	157.80067 (30, 1)
11000.0 /	158.27823 (30, 1)	165.19542 (30, 1)	167.56775 (30, 1)	165.19560 (30, 1)	158.27858 (30, 1)
10000.0 /	161.58220 (25, 1)	166.05626 (30, 1)	168.88170 (30, 1)	166.05646 (30, 1)	161.58237 (25, 1)
9000.0 /	167.05188 (25, 1)	171.64474 (25, 1)	173.20363 (25, 1)	171.64484 (25, 1)	167.05206 (25, 1)
8000.0 /	171.48969 (25, 1)	177.31631 (25, 1)	179.30223 (25, 1)	177.31642 (25, 1)	171.48990 (25, 1)
7000.0 /	174.05243 (25, 1)	181.57619 (25, 1)	184.15573 (25, 1)	181.57631 (25, 1)	174.05267 (25, 1)
6000.0 /	173.39299 (25, 1)	183.30150 (25, 1)	186.72865 (25, 1)	183.30165 (25, 1)	173.39326 (25, 1)
5000.0 /	167.36963 (25, 1)	180.69974 (25, 1)	185.37505 (25, 1)	180.69991 (25, 1)	167.36992 (25, 1)
4000.0 /	152.63530 (25, 1)	170.94728 (25, 1)	177.52715 (25, 1)	170.94746 (25, 1)	152.63562 (25, 1)
3000.0 /	120.26575 (26, 1)	145.43687 (26, 1)	154.94786 (26, 1)	145.43707 (26, 1)	120.26607 (26, 1)
2000.0 /	112.89488 (5, 1)	139.90074 (22, 1)	150.90036 (22, 1)	139.90089 (22, 1)	112.89494 (5, 1)
1000.0 /	153.50705 (2, 1)	190.38112 (23, 1)	248.30002 (23, 1)	190.38147 (23, 1)	153.50710 (2, 1)

1

HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 6,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.09881	(30, 1)
0.0	50.0	1.33807	(30, 1)	50.0	50.0	0.09881	(30, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.15152	(25, 1)
-50.0	100.0	4.99578	(25, 1)	0.0	100.0	20.35561	(30, 1)
50.0	100.0	4.99592	(25, 1)	100.0	100.0	0.15153	(25, 1)
-100.0	200.0	0.24801	(25, 1)	-50.0	200.0	6.10828	(25, 1)
0.0	200.0	104.92973	(24, 1)	50.0	200.0	6.10829	(25, 1)
100.0	200.0	0.24801	(25, 1)	-100.0	300.0	14.48462	(3, 1)
-50.0	300.0	57.83127	(15, 1)	0.0	300.0	279.92798	(24, 1)
50.0	300.0	57.83140	(15, 1)	100.0	300.0	14.48463	(3, 1)
-100.0	400.0	74.17310	(3, 1)	-50.0	400.0	135.79457	(15, 1)
0.0	400.0	337.22672	(24, 1)	50.0	400.0	135.79480	(15, 1)
100.0	400.0	74.17316	(3, 1)	-100.0	500.0	127.75591	(3, 1)
-50.0	500.0	186.37703	(15, 1)	0.0	500.0	343.07120	(24, 1)
50.0	500.0	186.37727	(15, 1)	100.0	500.0	127.75599	(3, 1)
-100.0	600.0	142.29382	(2, 1)	-50.0	600.0	205.47217	(15, 1)
0.0	600.0	328.20532	(24, 1)	50.0	600.0	205.47243	(15, 1)
100.0	600.0	142.29388	(2, 1)	-100.0	700.0	171.40735	(2, 1)
-50.0	700.0	204.66359	(15, 1)	0.0	700.0	304.77246	(24, 1)
50.0	700.0	204.66380	(15, 1)	100.0	700.0	171.40742	(2, 1)
-100.0	800.0	173.13205	(2, 1)	-50.0	800.0	194.63568	(15, 1)
0.0	800.0	279.65842	(24, 1)	50.0	800.0	194.63586	(15, 1)
100.0	800.0	173.13211	(2, 1)	-100.0	900.0	163.80232	(2, 1)
-50.0	900.0	191.62387	(23, 1)	0.0	900.0	264.14661	(23, 1)
50.0	900.0	191.62425	(23, 1)	100.0	900.0	163.80240	(2, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 6,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 232.13150 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS / (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	88.37896 (25, 1)	88.77465 (25, 1)	88.90695 (25, 1)	88.77467 (25, 1)	88.37901 (25, 1)
24000.0 /	91.51853 (25, 1)	91.95881 (25, 1)	92.10604 (25, 1)	91.95883 (25, 1)	91.51858 (25, 1)
23000.0 /	94.86678 (25, 1)	95.35870 (25, 1)	95.52324 (25, 1)	95.35872 (25, 1)	94.86683 (25, 1)
22000.0 /	98.44378 (25, 1)	98.99586 (25, 1)	99.18058 (25, 1)	98.99589 (25, 1)	98.44384 (25, 1)
21000.0 /	102.27207 (25, 1)	102.89468 (25, 1)	103.10307 (25, 1)	102.89471 (25, 1)	102.27213 (25, 1)
20000.0 /	106.37695 (25, 1)	107.08282 (25, 1)	107.31916 (25, 1)	107.08286 (25, 1)	106.37701 (25, 1)
19000.0 /	110.67458 (25, 1)	111.47866 (25, 1)	111.74799 (25, 1)	111.47870 (25, 1)	110.67465 (25, 1)
18000.0 /	115.24162 (25, 1)	116.16293 (25, 1)	116.47168 (25, 1)	116.16296 (25, 1)	115.24169 (25, 1)
17000.0 /	120.09234 (25, 1)	121.15471 (25, 1)	121.51093 (25, 1)	121.15475 (25, 1)	120.09242 (25, 1)
16000.0 /	125.23822 (25, 1)	126.47183 (25, 1)	126.88575 (25, 1)	126.47188 (25, 1)	125.23831 (25, 1)
15000.0 /	130.68541 (25, 1)	132.12894 (25, 1)	132.61365 (25, 1)	132.12898 (25, 1)	130.68552 (25, 1)
14000.0 /	136.43115 (25, 1)	138.13472 (25, 1)	138.70732 (25, 1)	138.13478 (25, 1)	136.43126 (25, 1)
13000.0 /	142.45766 (25, 1)	144.48727 (25, 1)	145.17024 (25, 1)	144.48734 (25, 1)	142.45778 (25, 1)
12000.0 /	148.72287 (25, 1)	151.16667 (25, 1)	151.99019 (25, 1)	151.16673 (25, 1)	148.72301 (25, 1)
11000.0 /	155.14519 (25, 1)	158.12297 (25, 1)	159.12825 (25, 1)	158.12306 (25, 1)	155.14534 (25, 1)
10000.0 /	157.86058 (30, 1)	165.26004 (25, 1)	166.50453 (25, 1)	165.26013 (25, 1)	157.86096 (30, 1)
9000.0 /	156.22092 (30, 1)	166.04018 (30, 1)	169.44862 (30, 1)	166.04039 (30, 1)	156.22131 (30, 1)
8000.0 /	152.90733 (30, 1)	164.82155 (30, 1)	168.99586 (30, 1)	164.82178 (30, 1)	152.90776 (30, 1)
7000.0 /	147.28542 (30, 1)	161.95027 (30, 1)	167.15622 (30, 1)	161.95052 (30, 1)	147.28587 (30, 1)
6000.0 /	141.97391 (26, 1)	153.73404 (30, 1)	160.24374 (30, 1)	153.73431 (30, 1)	141.97412 (26, 1)
5000.0 /	145.05363 (26, 1)	156.70113 (26, 1)	160.78792 (26, 1)	156.70126 (26, 1)	145.05389 (26, 1)
4000.0 /	141.71605 (26, 1)	158.92874 (26, 1)	165.11902 (26, 1)	158.92891 (26, 1)	141.71634 (26, 1)
3000.0 /	118.28017 (25, 1)	142.51900 (25, 1)	151.65611 (25, 1)	142.51920 (25, 1)	118.28048 (25, 1)
2000.0 /	111.57814 (21, 1)	139.86250 (21, 1)	150.80260 (21, 1)	139.86264 (21, 1)	111.57838 (21, 1)
1000.0 /	124.83249 (14, 1)	177.69730 (24, 1)	232.13150 (24, 1)	177.69763 (24, 1)	124.83268 (14, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 6,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.00357	(25, 1)
0.0	50.0	0.04021	(25, 1)	50.0	50.0	0.00357	(25, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.01942	(30, 1)
-50.0	100.0	3.57751	(30, 1)	0.0	100.0	16.01943	(25, 1)
50.0	100.0	3.57752	(30, 1)	100.0	100.0	0.01942	(30, 1)
-100.0	200.0	0.11421	(3, 1)	-50.0	200.0	4.21588	(30, 1)
0.0	200.0	34.54665	(15, 1)	50.0	200.0	4.21589	(30, 1)
100.0	200.0	0.11431	(3, 1)	-100.0	300.0	8.26489	(8, 1)
-50.0	300.0	29.37141	(8, 1)	0.0	300.0	159.21161	(15, 1)
50.0	300.0	29.37144	(8, 1)	100.0	300.0	8.26491	(8, 1)
-100.0	400.0	42.40926	(8, 1)	-50.0	400.0	109.95719	(3, 1)
0.0	400.0	247.73186	(15, 1)	50.0	400.0	109.95724	(3, 1)
100.0	400.0	42.40932	(8, 1)	-100.0	500.0	86.90244	(8, 1)
-50.0	500.0	166.90231	(3, 1)	0.0	500.0	278.38870	(15, 1)
50.0	500.0	166.90237	(3, 1)	100.0	500.0	86.90254	(8, 1)
-100.0	600.0	136.92369	(3, 1)	-50.0	600.0	183.37703	(14, 1)
0.0	600.0	290.40704	(23, 1)	50.0	600.0	183.37726	(14, 1)
100.0	600.0	136.92377	(3, 1)	-100.0	700.0	128.38898	(3, 1)
-50.0	700.0	197.32014	(2, 1)	0.0	700.0	288.05817	(23, 1)
50.0	700.0	197.32019	(2, 1)	100.0	700.0	128.38904	(3, 1)
-100.0	800.0	128.09465	(8, 1)	-50.0	800.0	194.22511	(14, 1)
0.0	800.0	278.14706	(23, 1)	50.0	800.0	194.22530	(14, 1)
100.0	800.0	128.09476	(8, 1)	-100.0	900.0	123.29049	(14, 1)
-50.0	900.0	187.00548	(14, 1)	0.0	900.0	255.08749	(24, 1)
50.0	900.0	187.00565	(14, 1)	100.0	900.0	123.29070	(14, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 7,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 354.71475 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS)	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0	163.69576 (30, 1)	165.35185 (30, 1)	165.90762 (30, 1)	165.35194 (30, 1)	163.69595 (30, 1)
24000.0	167.91635 (30, 1)	169.74200 (30, 1)	170.35500 (30, 1)	169.74211 (30, 1)	167.91655 (30, 1)
23000.0	172.34676 (30, 1)	174.36687 (30, 1)	175.04552 (30, 1)	174.36697 (30, 1)	172.34698 (30, 1)
22000.0	177.00108 (30, 1)	179.24535 (30, 1)	179.99979 (30, 1)	179.24547 (30, 1)	177.00131 (30, 1)
21000.0	181.89415 (30, 1)	184.39835 (30, 1)	185.24077 (30, 1)	184.39848 (30, 1)	181.89439 (30, 1)
20000.0	187.04143 (30, 1)	189.84897 (30, 1)	190.79419 (30, 1)	189.84911 (30, 1)	187.04169 (30, 1)
19000.0	192.45854 (30, 1)	195.62253 (30, 1)	196.68877 (30, 1)	195.62268 (30, 1)	192.45882 (30, 1)
18000.0	198.16121 (30, 1)	201.74725 (30, 1)	202.95702 (30, 1)	201.74741 (30, 1)	198.16150 (30, 1)
17000.0	204.16406 (30, 1)	208.25403 (30, 1)	209.63554 (30, 1)	208.25420 (30, 1)	204.16438 (30, 1)
16000.0	210.47948 (30, 1)	215.17670 (30, 1)	216.76569 (30, 1)	215.17688 (30, 1)	210.47983 (30, 1)
15000.0	217.11555 (30, 1)	222.55209 (30, 1)	224.39442 (30, 1)	222.55228 (30, 1)	217.11592 (30, 1)
14000.0	222.52271 (30, 1)	228.82582 (30, 1)	230.96635 (30, 1)	228.82602 (30, 1)	222.52310 (30, 1)
13000.0	227.83257 (30, 1)	235.20201 (30, 1)	237.71115 (30, 1)	235.20222 (30, 1)	227.83301 (30, 1)
12000.0	232.92400 (30, 1)	241.62228 (30, 1)	244.59340 (30, 1)	241.62254 (30, 1)	232.92447 (30, 1)
11000.0	237.61055 (30, 1)	247.98837 (30, 1)	251.54752 (30, 1)	247.98865 (30, 1)	237.61107 (30, 1)
10000.0	241.61842 (30, 1)	254.15338 (30, 1)	258.47467 (30, 1)	254.15367 (30, 1)	241.61899 (30, 1)
9000.0	244.53957 (30, 1)	259.89648 (30, 1)	265.22696 (30, 1)	259.89682 (30, 1)	244.54019 (30, 1)
8000.0	245.75620 (30, 1)	264.88394 (30, 1)	271.58530 (30, 1)	264.88434 (30, 1)	245.75688 (30, 1)
7000.0	244.31006 (30, 1)	268.60129 (30, 1)	277.22385 (30, 1)	268.60172 (30, 1)	244.31082 (30, 1)
6000.0	237.20285 (25, 1)	266.23758 (30, 1)	277.49091 (30, 1)	266.23804 (30, 1)	237.20323 (25, 1)
5000.0	237.92889 (25, 1)	260.01010 (31, 1)	275.43082 (31, 1)	260.01062 (31, 1)	237.92932 (25, 1)
4000.0	228.70476 (25, 1)	258.83328 (31, 1)	281.84348 (31, 1)	258.83389 (31, 1)	228.70523 (25, 1)
3000.0	193.35475 (25, 1)	248.59627 (32, 1)	286.47968 (32, 1)	248.59702 (32, 1)	193.35524 (25, 1)
2000.0	143.58614 (21, 1)	209.80453 (33, 1)	279.56949 (33, 1)	209.80539 (33, 1)	143.58644 (21, 1)
1000.0	155.52563 (2, 1)	272.03439 (23, 1)	354.71475 (23, 1)	272.03491 (23, 1)	155.52570 (2, 1)

1

HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 7,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	44.18484	(3, 1)
0.0	50.0	54421.23828	(21, 1)	50.0	50.0	44.18489	(3, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	5.62570	(1, 1)
-50.0	100.0	292.36313	(3, 1)	0.0	100.0	14363.54492	(22, 1)
50.0	100.0	292.53482	(3, 1)	100.0	100.0	5.62822	(1, 1)
-100.0	200.0	94.75876	(3, 1)	-50.0	200.0	425.80557	(8, 1)
0.0	200.0	3775.25146	(23, 1)	50.0	200.0	425.80615	(8, 1)
100.0	200.0	94.77141	(3, 1)	-100.0	300.0	160.51967	(3, 1)
-50.0	300.0	410.13419	(15, 1)	0.0	300.0	1795.80188	(23, 1)
50.0	300.0	410.13507	(15, 1)	100.0	300.0	160.51979	(3, 1)
-100.0	400.0	178.27086	(3, 1)	-50.0	400.0	393.36325	(15, 1)
0.0	400.0	1097.28503	(24, 1)	50.0	400.0	393.36389	(15, 1)
100.0	400.0	178.27101	(3, 1)	-100.0	500.0	168.19421	(3, 1)
-50.0	500.0	339.39725	(15, 1)	0.0	500.0	768.12488	(24, 1)
50.0	500.0	339.39771	(15, 1)	100.0	500.0	168.19432	(3, 1)
-100.0	600.0	151.26097	(2, 1)	-50.0	600.0	294.37131	(24, 1)
0.0	600.0	575.71613	(24, 1)	50.0	600.0	294.37216	(24, 1)
100.0	600.0	151.26105	(2, 1)	-100.0	700.0	175.67897	(2, 1)
-50.0	700.0	303.65915	(23, 1)	0.0	700.0	501.82068	(23, 1)
50.0	700.0	303.65988	(23, 1)	100.0	700.0	175.67905	(2, 1)
-100.0	800.0	175.66164	(2, 1)	-50.0	800.0	300.13300	(23, 1)
0.0	800.0	445.91882	(23, 1)	50.0	800.0	300.13364	(23, 1)
100.0	800.0	175.66171	(2, 1)	-100.0	900.0	165.95488	(2, 1)
-50.0	900.0	288.14767	(23, 1)	0.0	900.0	397.07111	(23, 1)
50.0	900.0	288.14825	(23, 1)	100.0	900.0	165.95494	(2, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 7,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 346.42749 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS / (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	114.22298 (31, 1)	115.37943 (31, 1)	115.76753 (31, 1)	115.37949 (31, 1)	114.22311 (31, 1)
24000.0 /	117.95293 (31, 1)	119.23640 (31, 1)	119.66735 (31, 1)	119.23648 (31, 1)	117.95307 (31, 1)
23000.0 /	121.92128 (31, 1)	123.35159 (31, 1)	123.83211 (31, 1)	123.35167 (31, 1)	121.92143 (31, 1)
22000.0 /	126.15058 (31, 1)	127.75161 (31, 1)	128.28981 (31, 1)	127.75169 (31, 1)	126.15074 (31, 1)
21000.0 /	130.66597 (31, 1)	132.46675 (31, 1)	133.07253 (31, 1)	132.46683 (31, 1)	130.66614 (31, 1)
20000.0 /	135.49571 (31, 1)	137.53183 (31, 1)	138.21733 (31, 1)	137.53192 (31, 1)	135.49591 (31, 1)
19000.0 /	140.67133 (31, 1)	142.98679 (31, 1)	143.76707 (31, 1)	142.98689 (31, 1)	140.67152 (31, 1)
18000.0 /	146.22801 (31, 1)	148.87782 (31, 1)	149.77176 (31, 1)	148.87793 (31, 1)	146.22823 (31, 1)
17000.0 /	152.20491 (31, 1)	155.25856 (31, 1)	156.29004 (31, 1)	155.25868 (31, 1)	152.20515 (31, 1)
16000.0 /	158.64510 (31, 1)	162.19144 (31, 1)	163.39113 (31, 1)	162.19157 (31, 1)	158.64536 (31, 1)
15000.0 /	165.59541 (31, 1)	169.74965 (31, 1)	171.15747 (31, 1)	169.74980 (31, 1)	165.59570 (31, 1)
14000.0 /	172.50061 (31, 1)	177.39716 (31, 1)	179.06007 (31, 1)	177.39731 (31, 1)	172.50093 (31, 1)
13000.0 /	179.77618 (31, 1)	185.60524 (31, 1)	187.59003 (31, 1)	185.60542 (31, 1)	179.77652 (31, 1)
12000.0 /	187.39392 (31, 1)	194.41148 (31, 1)	196.80865 (31, 1)	194.41168 (31, 1)	187.39430 (31, 1)
11000.0 /	195.28314 (31, 1)	203.84015 (31, 1)	206.77509 (31, 1)	203.84038 (31, 1)	195.28358 (31, 1)
10000.0 /	203.30490 (31, 1)	213.89311 (31, 1)	217.54376 (31, 1)	213.89337 (31, 1)	203.30539 (31, 1)
9000.0 /	212.88274 (25, 1)	224.52820 (31, 1)	229.15450 (31, 1)	224.52849 (31, 1)	212.88298 (25, 1)
8000.0 /	222.64166 (25, 1)	235.61972 (31, 1)	241.61461 (31, 1)	235.62006 (31, 1)	222.64195 (25, 1)
7000.0 /	231.23595 (25, 1)	246.88148 (31, 1)	254.86407 (31, 1)	246.88187 (31, 1)	231.23627 (25, 1)
6000.0 /	235.14285 (30, 1)	254.97807 (31, 1)	265.85831 (31, 1)	254.97852 (31, 1)	235.14366 (30, 1)
5000.0 /	218.73792 (31, 1)	259.32977 (30, 1)	274.50891 (30, 1)	259.33029 (30, 1)	218.73880 (31, 1)
4000.0 /	206.91312 (26, 1)	256.10004 (25, 1)	274.46530 (32, 1)	256.10031 (25, 1)	206.91356 (26, 1)
3000.0 /	191.95364 (26, 1)	245.16212 (31, 1)	282.01666 (31, 1)	245.16286 (31, 1)	191.95415 (26, 1)
2000.0 /	139.47398 (27, 1)	205.46875 (27, 1)	271.24466 (32, 1)	205.46913 (27, 1)	139.47449 (27, 1)
1000.0 /	149.69843 (14, 1)	266.94781 (22, 1)	346.42749 (22, 1)	266.94830 (22, 1)	149.69865 (14, 1)

1

2ND HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 7,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	38.02244	(2, 1)
0.0	50.0	46690.57422	(22, 1)	50.0	50.0	38.02247	(2, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	3.95927	(3, 1)
-50.0	100.0	174.37657	(8, 1)	0.0	100.0	12895.83984	(23, 1)
50.0	100.0	174.37694	(8, 1)	100.0	100.0	3.96161	(3, 1)
-100.0	200.0	45.74429	(2, 1)	-50.0	200.0	348.97095	(3, 1)
0.0	200.0	3376.07886	(24, 1)	50.0	200.0	348.97119	(3, 1)
100.0	200.0	45.75299	(2, 1)	-100.0	300.0	107.41055	(8, 1)
-50.0	300.0	380.64420	(8, 1)	0.0	300.0	1741.96924	(24, 1)
50.0	300.0	380.64453	(8, 1)	100.0	300.0	107.41071	(8, 1)
-100.0	400.0	144.05716	(8, 1)	-50.0	400.0	357.61407	(14, 1)
0.0	400.0	1094.55786	(23, 1)	50.0	400.0	357.61462	(14, 1)
100.0	400.0	144.05739	(8, 1)	-100.0	500.0	151.67238	(8, 1)
-50.0	500.0	312.06171	(14, 1)	0.0	500.0	756.09753	(23, 1)
50.0	500.0	312.06213	(14, 1)	100.0	500.0	151.67256	(8, 1)
-100.0	600.0	146.51004	(8, 1)	-50.0	600.0	291.92856	(23, 1)
0.0	600.0	564.87543	(23, 1)	50.0	600.0	291.92938	(23, 1)
100.0	600.0	146.51018	(8, 1)	-100.0	700.0	151.96585	(8, 1)
-50.0	700.0	292.75085	(24, 1)	0.0	700.0	486.78290	(24, 1)
50.0	700.0	292.75159	(24, 1)	100.0	700.0	151.96599	(8, 1)
-100.0	800.0	149.93701	(14, 1)	-50.0	800.0	279.08386	(24, 1)
0.0	800.0	416.23068	(24, 1)	50.0	800.0	279.08450	(24, 1)
100.0	800.0	149.93730	(14, 1)	-100.0	900.0	152.55963	(14, 1)
-50.0	900.0	267.37347	(22, 1)	0.0	900.0	365.89954	(22, 1)
50.0	900.0	267.37402	(22, 1)	100.0	900.0	152.55991	(14, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 8,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 164.82719 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	4.21944 (30, 1)	4.26221 (30, 1)	4.27657 (30, 1)	4.26222 (30, 1)	4.21945 (30, 1)
24000.0 /	4.42092 (30, 1)	4.46909 (30, 1)	4.48526 (30, 1)	4.46909 (30, 1)	4.42092 (30, 1)
23000.0 /	4.64077 (30, 1)	4.69528 (30, 1)	4.71360 (30, 1)	4.69529 (30, 1)	4.64077 (30, 1)
22000.0 /	4.88150 (30, 1)	4.94355 (30, 1)	4.96441 (30, 1)	4.94355 (30, 1)	4.88151 (30, 1)
21000.0 /	5.14612 (30, 1)	5.21716 (30, 1)	5.24105 (30, 1)	5.21716 (30, 1)	5.14612 (30, 1)
20000.0 /	5.43818 (30, 1)	5.52005 (30, 1)	5.54761 (30, 1)	5.52005 (30, 1)	5.43819 (30, 1)
19000.0 /	5.76199 (30, 1)	5.85702 (30, 1)	5.88905 (30, 1)	5.85703 (30, 1)	5.76200 (30, 1)
18000.0 /	6.12275 (30, 1)	6.23394 (30, 1)	6.27146 (30, 1)	6.23395 (30, 1)	6.12276 (30, 1)
17000.0 /	6.52682 (30, 1)	6.65809 (30, 1)	6.70243 (30, 1)	6.65809 (30, 1)	6.52683 (30, 1)
16000.0 /	6.98206 (30, 1)	7.13856 (30, 1)	7.19150 (30, 1)	7.13856 (30, 1)	6.98207 (30, 1)
15000.0 /	7.49825 (30, 1)	7.68692 (30, 1)	7.75086 (30, 1)	7.68693 (30, 1)	7.49826 (30, 1)
14000.0 /	8.12849 (30, 1)	8.36001 (30, 1)	8.43864 (30, 1)	8.36002 (30, 1)	8.12850 (30, 1)
13000.0 /	8.85722 (30, 1)	9.14552 (30, 1)	9.24370 (30, 1)	9.14553 (30, 1)	8.85724 (30, 1)
12000.0 /	9.70698 (30, 1)	10.07212 (30, 1)	10.19687 (30, 1)	10.07213 (30, 1)	9.70700 (30, 1)
11000.0 /	10.70736 (30, 1)	11.17901 (30, 1)	11.34081 (30, 1)	11.17903 (30, 1)	10.70738 (30, 1)
10000.0 /	11.89726 (30, 1)	12.52077 (30, 1)	12.73578 (30, 1)	12.52078 (30, 1)	11.89729 (30, 1)
9000.0 /	13.32799 (30, 1)	14.17532 (30, 1)	14.46957 (30, 1)	14.17534 (30, 1)	13.32803 (30, 1)
8000.0 /	15.06674 (30, 1)	16.25742 (30, 1)	16.67488 (30, 1)	16.25744 (30, 1)	15.06678 (30, 1)
7000.0 /	17.19825 (30, 1)	18.94190 (30, 1)	19.56156 (30, 1)	18.94193 (30, 1)	17.19831 (30, 1)
6000.0 /	19.92034 (30, 1)	22.62394 (30, 1)	23.60437 (30, 1)	22.62398 (30, 1)	19.92041 (30, 1)
5000.0 /	23.21660 (30, 1)	27.69823 (30, 1)	29.37673 (30, 1)	27.69829 (30, 1)	23.21670 (30, 1)
4000.0 /	26.86631 (30, 1)	34.96828 (30, 1)	38.17949 (30, 1)	34.96837 (30, 1)	26.86645 (30, 1)
3000.0 /	29.36636 (30, 1)	45.70709 (30, 1)	52.96982 (30, 1)	45.70723 (30, 1)	29.36654 (30, 1)
2000.0 /	24.67694 (25, 1)	61.07219 (30, 1)	82.95901 (30, 1)	61.07245 (30, 1)	24.67703 (25, 1)
1000.0 /	25.02343 (16, 1)	56.87250 (30, 1)	164.82719 (30, 1)	56.87292 (30, 1)	25.02352 (16, 1)

1

HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 8,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	2.35619	(1, 1)
0.0	50.0	4065.86865	(16, 1)	50.0	50.0	2.35619	(1, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.32571	(1, 1)
-50.0	100.0	56.29072	(1, 1)	0.0	100.0	1795.79224	(16, 1)
50.0	100.0	56.28078	(1, 1)	100.0	100.0	0.32565	(1, 1)
-100.0	200.0	14.71811	(1, 1)	-50.0	200.0	74.18680	(4, 1)
0.0	200.0	653.44812	(16, 1)	50.0	200.0	74.18690	(4, 1)
100.0	200.0	14.71719	(1, 1)	-100.0	300.0	19.04859	(1, 1)
-50.0	300.0	69.70330	(9, 1)	0.0	300.0	412.85532	(30, 1)
50.0	300.0	69.70346	(9, 1)	100.0	300.0	19.04860	(1, 1)
-100.0	400.0	20.79393	(4, 1)	-50.0	400.0	69.53212	(9, 1)
0.0	400.0	351.75714	(30, 1)	50.0	400.0	69.53224	(9, 1)
100.0	400.0	20.79396	(4, 1)	-100.0	500.0	19.60850	(4, 1)
-50.0	500.0	77.30230	(16, 1)	0.0	500.0	300.17923	(30, 1)
50.0	500.0	77.30254	(16, 1)	100.0	500.0	19.60853	(4, 1)
-100.0	600.0	20.32605	(9, 1)	-50.0	600.0	78.89457	(16, 1)
0.0	600.0	259.13739	(30, 1)	50.0	600.0	78.89480	(16, 1)
100.0	600.0	20.32610	(9, 1)	-100.0	700.0	20.92753	(9, 1)
-50.0	700.0	74.88788	(16, 1)	0.0	700.0	227.03883	(30, 1)
50.0	700.0	74.88807	(16, 1)	100.0	700.0	20.92758	(9, 1)
-100.0	800.0	20.49029	(16, 1)	-50.0	800.0	68.78529	(16, 1)
0.0	800.0	201.76492	(30, 1)	50.0	800.0	68.78544	(16, 1)
100.0	800.0	20.49039	(16, 1)	-100.0	900.0	23.43612	(16, 1)
-50.0	900.0	62.26714	(16, 1)	0.0	900.0	181.48329	(30, 1)
50.0	900.0	62.26727	(16, 1)	100.0	900.0	23.43621	(16, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 8,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 100.72730 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	2.14492 (31, 1)	2.16666 (31, 1)	2.17396 (31, 1)	2.16667 (31, 1)	2.14492 (31, 1)
24000.0 /	2.24831 (31, 1)	2.27281 (31, 1)	2.28103 (31, 1)	2.27281 (31, 1)	2.24831 (31, 1)
23000.0 /	2.36121 (31, 1)	2.38895 (31, 1)	2.39827 (31, 1)	2.38895 (31, 1)	2.36121 (31, 1)
22000.0 /	2.48493 (31, 1)	2.51651 (31, 1)	2.52713 (31, 1)	2.51651 (31, 1)	2.48493 (31, 1)
21000.0 /	2.62103 (31, 1)	2.65721 (31, 1)	2.66938 (31, 1)	2.65721 (31, 1)	2.62103 (31, 1)
20000.0 /	2.77138 (31, 1)	2.81310 (31, 1)	2.82715 (31, 1)	2.81310 (31, 1)	2.77138 (31, 1)
19000.0 /	2.93823 (31, 1)	2.98669 (31, 1)	3.00302 (31, 1)	2.98669 (31, 1)	2.93823 (31, 1)
18000.0 /	3.12431 (31, 1)	3.18105 (31, 1)	3.20020 (31, 1)	3.18106 (31, 1)	3.12432 (31, 1)
17000.0 /	3.33297 (31, 1)	3.40001 (31, 1)	3.42265 (31, 1)	3.40001 (31, 1)	3.33298 (31, 1)
16000.0 /	3.56835 (31, 1)	3.64834 (31, 1)	3.67540 (31, 1)	3.64834 (31, 1)	3.56836 (31, 1)
15000.0 /	3.83561 (31, 1)	3.93213 (31, 1)	3.96484 (31, 1)	3.93214 (31, 1)	3.83562 (31, 1)
14000.0 /	4.16332 (31, 1)	4.28191 (31, 1)	4.32219 (31, 1)	4.28191 (31, 1)	4.16333 (31, 1)
13000.0 /	4.54314 (31, 1)	4.69104 (31, 1)	4.74140 (31, 1)	4.69104 (31, 1)	4.54315 (31, 1)
12000.0 /	4.98727 (31, 1)	5.17489 (31, 1)	5.23899 (31, 1)	5.17489 (31, 1)	4.98728 (31, 1)
11000.0 /	5.51179 (31, 1)	5.75461 (31, 1)	5.83790 (31, 1)	5.75461 (31, 1)	5.51180 (31, 1)
10000.0 /	6.13805 (31, 1)	6.45977 (31, 1)	6.57072 (31, 1)	6.45978 (31, 1)	6.13806 (31, 1)
9000.0 /	6.89452 (31, 1)	7.33291 (31, 1)	7.48515 (31, 1)	7.33292 (31, 1)	6.89454 (31, 1)
8000.0 /	7.81910 (31, 1)	8.43715 (31, 1)	8.65384 (31, 1)	8.43716 (31, 1)	7.81912 (31, 1)
7000.0 /	8.96089 (31, 1)	9.86963 (31, 1)	10.19259 (31, 1)	9.86965 (31, 1)	8.96091 (31, 1)
6000.0 /	10.43860 (31, 1)	11.85584 (31, 1)	12.36980 (31, 1)	11.85586 (31, 1)	10.43864 (31, 1)
5000.0 /	12.25893 (31, 1)	14.62653 (31, 1)	15.51331 (31, 1)	14.62656 (31, 1)	12.25898 (31, 1)
4000.0 /	15.11759 (25, 1)	18.66585 (31, 1)	20.38120 (31, 1)	18.66589 (31, 1)	15.11763 (25, 1)
3000.0 /	19.79933 (25, 1)	24.80013 (31, 1)	28.74572 (31, 1)	24.80020 (31, 1)	19.79939 (25, 1)
2000.0 /	24.36604 (30, 1)	37.10128 (25, 1)	46.55004 (31, 1)	37.10135 (25, 1)	24.36625 (30, 1)
1000.0 /	17.25390 (9, 1)	56.71533 (25, 1)	100.72730 (31, 1)	56.71552 (25, 1)	17.25393 (9, 1)

1

2ND HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 8,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	1.03100	(2, 1)
0.0	50.0	2492.84082	(9, 1)	50.0	50.0	1.03100	(2, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.17389	(2, 1)
-50.0	100.0	31.15135	(2, 1)	0.0	100.0	950.34259	(33, 1)
50.0	100.0	31.14520	(2, 1)	100.0	100.0	0.17385	(2, 1)
-100.0	200.0	7.65556	(2, 1)	-50.0	200.0	65.81223	(1, 1)
0.0	200.0	504.60419	(31, 1)	50.0	200.0	65.81229	(1, 1)
100.0	200.0	7.65504	(2, 1)	-100.0	300.0	16.23016	(4, 1)
-50.0	300.0	64.03009	(4, 1)	0.0	300.0	381.91287	(16, 1)
50.0	300.0	64.03015	(4, 1)	100.0	300.0	16.23018	(4, 1)
-100.0	400.0	14.89144	(1, 1)	-50.0	400.0	64.07466	(16, 1)
0.0	400.0	274.88632	(31, 1)	50.0	400.0	64.07491	(16, 1)
100.0	400.0	14.89146	(1, 1)	-100.0	500.0	17.20761	(9, 1)
-50.0	500.0	59.87302	(9, 1)	0.0	500.0	215.30670	(31, 1)
50.0	500.0	59.87310	(9, 1)	100.0	500.0	17.20766	(9, 1)
-100.0	600.0	16.94582	(4, 1)	-50.0	600.0	49.69273	(9, 1)
0.0	600.0	175.43416	(31, 1)	50.0	600.0	49.69279	(9, 1)
100.0	600.0	16.94584	(4, 1)	-100.0	700.0	15.97880	(16, 1)
-50.0	700.0	51.01429	(25, 1)	0.0	700.0	147.70050	(31, 1)
50.0	700.0	51.01451	(25, 1)	100.0	700.0	15.97888	(16, 1)
-100.0	800.0	20.17067	(9, 1)	-50.0	800.0	55.19242	(25, 1)
0.0	800.0	127.92307	(31, 1)	50.0	800.0	55.19264	(25, 1)
100.0	800.0	20.17071	(9, 1)	-100.0	900.0	18.80983	(9, 1)
-50.0	900.0	56.81746	(25, 1)	0.0	900.0	112.76451	(31, 1)
50.0	900.0	56.81767	(25, 1)	100.0	900.0	18.80987	(9, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 9,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 53.44487 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS / (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	3.79099 (30, 1)	3.82941 (30, 1)	3.84231 (30, 1)	3.82942 (30, 1)	3.79100 (30, 1)
24000.0 /	3.96114 (30, 1)	4.00429 (30, 1)	4.01878 (30, 1)	4.00429 (30, 1)	3.96114 (30, 1)
23000.0 /	4.14597 (30, 1)	4.19466 (30, 1)	4.21102 (30, 1)	4.19466 (30, 1)	4.14597 (30, 1)
22000.0 /	4.34738 (30, 1)	4.40262 (30, 1)	4.42119 (30, 1)	4.40262 (30, 1)	4.34738 (30, 1)
21000.0 /	4.56762 (30, 1)	4.63065 (30, 1)	4.65186 (30, 1)	4.63066 (30, 1)	4.56763 (30, 1)
20000.0 /	4.80935 (30, 1)	4.88172 (30, 1)	4.90609 (30, 1)	4.88173 (30, 1)	4.80935 (30, 1)
19000.0 /	5.07572 (30, 1)	5.15940 (30, 1)	5.18760 (30, 1)	5.15941 (30, 1)	5.07573 (30, 1)
18000.0 /	5.37052 (30, 1)	5.46802 (30, 1)	5.50091 (30, 1)	5.46802 (30, 1)	5.37053 (30, 1)
17000.0 /	5.69833 (30, 1)	5.81289 (30, 1)	5.85158 (30, 1)	5.81289 (30, 1)	5.69834 (30, 1)
16000.0 /	6.06471 (30, 1)	6.20058 (30, 1)	6.24655 (30, 1)	6.20059 (30, 1)	6.06472 (30, 1)
15000.0 /	6.47647 (30, 1)	6.63935 (30, 1)	6.69455 (30, 1)	6.63935 (30, 1)	6.47648 (30, 1)
14000.0 /	6.96510 (30, 1)	7.16336 (30, 1)	7.23070 (30, 1)	7.16337 (30, 1)	6.96511 (30, 1)
13000.0 /	7.52146 (30, 1)	7.76612 (30, 1)	7.84943 (30, 1)	7.76613 (30, 1)	7.52147 (30, 1)
12000.0 /	8.15888 (30, 1)	8.46556 (30, 1)	8.57032 (30, 1)	8.46556 (30, 1)	8.15890 (30, 1)
11000.0 /	8.89401 (30, 1)	9.28544 (30, 1)	9.41971 (30, 1)	9.28545 (30, 1)	8.89403 (30, 1)
10000.0 /	9.74734 (30, 1)	10.25762 (30, 1)	10.43359 (30, 1)	10.25764 (30, 1)	9.74736 (30, 1)
9000.0 /	10.74347 (30, 1)	11.42560 (30, 1)	11.66247 (30, 1)	11.42561 (30, 1)	10.74350 (30, 1)
8000.0 /	11.91021 (30, 1)	12.84991 (30, 1)	13.17935 (30, 1)	12.84993 (30, 1)	11.91024 (30, 1)
7000.0 /	13.27349 (30, 1)	14.61644 (30, 1)	15.09363 (30, 1)	14.61646 (30, 1)	13.27353 (30, 1)
6000.0 /	14.86127 (30, 1)	16.87266 (30, 1)	17.60191 (30, 1)	16.87269 (30, 1)	14.86132 (30, 1)
5000.0 /	16.56466 (30, 1)	19.74965 (30, 1)	20.94202 (30, 1)	19.74969 (30, 1)	16.56473 (30, 1)
4000.0 /	18.02909 (30, 1)	23.43281 (30, 1)	25.57259 (30, 1)	23.43286 (30, 1)	18.02918 (30, 1)
3000.0 /	18.02780 (30, 1)	27.94780 (30, 1)	32.34568 (30, 1)	27.94788 (30, 1)	18.02791 (30, 1)
2000.0 /	15.23683 (25, 1)	31.28934 (30, 1)	42.26247 (30, 1)	31.28948 (30, 1)	15.23689 (25, 1)
1000.0 /	13.40361 (9, 1)	24.55954 (16, 1)	53.44487 (30, 1)	24.55958 (16, 1)	13.40363 (9, 1)

1

HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 9,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	1.19687	(2, 1)
0.0	50.0	2451.60815	(32, 1)	50.0	50.0	1.19687	(2, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.13041	(2, 1)
-50.0	100.0	18.49076	(2, 1)	0.0	100.0	819.46350	(33, 1)
50.0	100.0	18.49097	(2, 1)	100.0	100.0	0.13042	(2, 1)
-100.0	200.0	7.17476	(1, 1)	-50.0	200.0	29.69185	(1, 1)
0.0	200.0	171.26443	(18, 1)	50.0	200.0	29.69187	(1, 1)
100.0	200.0	7.17504	(1, 1)	-100.0	300.0	13.52866	(1, 1)
-50.0	300.0	28.48544	(4, 1)	0.0	300.0	107.15221	(18, 1)
50.0	300.0	28.48547	(4, 1)	100.0	300.0	13.52867	(1, 1)
-100.0	400.0	12.72954	(4, 1)	-50.0	400.0	28.10849	(4, 1)
0.0	400.0	78.25760	(17, 1)	50.0	400.0	28.10851	(4, 1)
100.0	400.0	12.72956	(4, 1)	-100.0	500.0	14.16351	(4, 1)
-50.0	500.0	27.82360	(9, 1)	0.0	500.0	65.06631	(17, 1)
50.0	500.0	27.82364	(9, 1)	100.0	500.0	14.16353	(4, 1)
-100.0	600.0	13.49467	(4, 1)	-50.0	600.0	28.09994	(17, 1)
0.0	600.0	56.48901	(31, 1)	50.0	600.0	28.10002	(17, 1)
100.0	600.0	13.49469	(4, 1)	-100.0	700.0	13.41592	(9, 1)
-50.0	700.0	28.14842	(17, 1)	0.0	700.0	54.44225	(31, 1)
50.0	700.0	28.14849	(17, 1)	100.0	700.0	13.41595	(9, 1)
-100.0	800.0	14.04183	(9, 1)	-50.0	800.0	26.99003	(17, 1)
0.0	800.0	54.31129	(30, 1)	50.0	800.0	26.99010	(17, 1)
100.0	800.0	14.04186	(9, 1)	-100.0	900.0	13.93305	(9, 1)
-50.0	900.0	25.28485	(17, 1)	0.0	900.0	53.99695	(30, 1)
50.0	900.0	25.28490	(17, 1)	100.0	900.0	13.93307	(9, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 9,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 46.88168 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS / (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	2.00629 (31, 1)	2.02662 (31, 1)	2.03345 (31, 1)	2.02662 (31, 1)	2.00629 (31, 1)
24000.0 /	2.09936 (31, 1)	2.12223 (31, 1)	2.12991 (31, 1)	2.12223 (31, 1)	2.09936 (31, 1)
23000.0 /	2.20070 (31, 1)	2.22656 (31, 1)	2.23524 (31, 1)	2.22656 (31, 1)	2.20071 (31, 1)
22000.0 /	2.31143 (31, 1)	2.34080 (31, 1)	2.35068 (31, 1)	2.34081 (31, 1)	2.31143 (31, 1)
21000.0 /	2.43284 (31, 1)	2.46641 (31, 1)	2.47771 (31, 1)	2.46642 (31, 1)	2.43284 (31, 1)
20000.0 /	2.56648 (31, 1)	2.60512 (31, 1)	2.61812 (31, 1)	2.60512 (31, 1)	2.56649 (31, 1)
19000.0 /	2.71423 (31, 1)	2.75899 (31, 1)	2.77408 (31, 1)	2.75899 (31, 1)	2.71424 (31, 1)
18000.0 /	2.87833 (31, 1)	2.93059 (31, 1)	2.94823 (31, 1)	2.93060 (31, 1)	2.87834 (31, 1)
17000.0 /	3.06150 (31, 1)	3.12306 (31, 1)	3.14385 (31, 1)	3.12306 (31, 1)	3.06151 (31, 1)
16000.0 /	3.26709 (31, 1)	3.34030 (31, 1)	3.36507 (31, 1)	3.34031 (31, 1)	3.26710 (31, 1)
15000.0 /	3.49923 (31, 1)	3.58726 (31, 1)	3.61709 (31, 1)	3.58726 (31, 1)	3.49924 (31, 1)
14000.0 /	3.77898 (31, 1)	3.88658 (31, 1)	3.92313 (31, 1)	3.88658 (31, 1)	3.77898 (31, 1)
13000.0 /	4.10011 (31, 1)	4.23353 (31, 1)	4.27896 (31, 1)	4.23353 (31, 1)	4.10012 (31, 1)
12000.0 /	4.47151 (31, 1)	4.63965 (31, 1)	4.69709 (31, 1)	4.63965 (31, 1)	4.47152 (31, 1)
11000.0 /	4.90454 (31, 1)	5.12048 (31, 1)	5.19456 (31, 1)	5.12049 (31, 1)	4.90455 (31, 1)
10000.0 /	5.41376 (31, 1)	5.69733 (31, 1)	5.79512 (31, 1)	5.69733 (31, 1)	5.41377 (31, 1)
9000.0 /	6.01765 (31, 1)	6.39997 (31, 1)	6.53274 (31, 1)	6.39998 (31, 1)	6.01767 (31, 1)
8000.0 /	6.73905 (31, 1)	7.27119 (31, 1)	7.45775 (31, 1)	7.27120 (31, 1)	6.73907 (31, 1)
7000.0 /	7.60399 (31, 1)	8.37412 (31, 1)	8.64779 (31, 1)	8.37414 (31, 1)	7.60402 (31, 1)
6000.0 /	8.66375 (31, 1)	9.83796 (31, 1)	10.26373 (31, 1)	9.83798 (31, 1)	8.66378 (31, 1)
5000.0 /	9.88012 (31, 1)	11.78355 (31, 1)	12.49630 (31, 1)	11.78358 (31, 1)	9.88016 (31, 1)
4000.0 /	11.79212 (25, 1)	14.42975 (31, 1)	15.75111 (31, 1)	14.42978 (31, 1)	11.79214 (25, 1)
3000.0 /	14.21930 (25, 1)	18.02348 (31, 1)	20.87339 (31, 1)	18.02354 (31, 1)	14.21933 (25, 1)
2000.0 /	13.36530 (16, 1)	22.79857 (25, 1)	29.84154 (31, 1)	22.79861 (25, 1)	13.36532 (16, 1)
1000.0 /	11.27074 (16, 1)	23.39955 (17, 1)	46.88168 (31, 1)	23.39959 (17, 1)	11.27078 (16, 1)

1

2ND HIGH
1-HR
SGROUP#

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 9,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	1.18795	(1, 1)
0.0	50.0	1990.67847	(33, 1)	50.0	50.0	1.18795	(1, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.12297	(1, 1)
-50.0	100.0	17.00077	(3, 1)	0.0	100.0	589.02332	(29, 1)
50.0	100.0	16.99841	(3, 1)	100.0	100.0	0.12304	(1, 1)
-100.0	200.0	6.30396	(2, 1)	-50.0	200.0	27.70764	(2, 1)
0.0	200.0	162.31786	(19, 1)	50.0	200.0	27.70766	(2, 1)
100.0	200.0	6.30372	(2, 1)	-100.0	300.0	8.87990	(2, 1)
-50.0	300.0	27.47493	(1, 1)	0.0	300.0	96.27184	(17, 1)
50.0	300.0	27.47494	(1, 1)	100.0	300.0	8.87991	(2, 1)
-100.0	400.0	12.61960	(1, 1)	-50.0	400.0	27.63095	(10, 1)
0.0	400.0	77.50458	(18, 1)	50.0	400.0	27.63100	(10, 1)
100.0	400.0	12.61961	(1, 1)	-100.0	500.0	9.38076	(1, 1)
-50.0	500.0	25.77463	(17, 1)	0.0	500.0	59.59988	(18, 1)
50.0	500.0	25.77471	(17, 1)	100.0	500.0	9.38077	(1, 1)
-100.0	600.0	11.66048	(9, 1)	-50.0	600.0	27.61133	(9, 1)
0.0	600.0	54.86630	(17, 1)	50.0	600.0	27.61137	(9, 1)
100.0	600.0	11.66051	(9, 1)	-100.0	700.0	12.07525	(4, 1)
-50.0	700.0	25.86642	(9, 1)	0.0	700.0	54.31125	(30, 1)
50.0	700.0	25.86645	(9, 1)	100.0	700.0	12.07526	(4, 1)
-100.0	800.0	10.54061	(4, 1)	-50.0	800.0	23.56524	(9, 1)
0.0	800.0	51.78835	(31, 1)	50.0	800.0	23.56526	(9, 1)
100.0	800.0	10.54062	(4, 1)	-100.0	900.0	9.60159	(17, 1)
-50.0	900.0	24.35499	(16, 1)	0.0	900.0	49.25960	(31, 1)
50.0	900.0	24.35504	(16, 1)	100.0	900.0	9.60163	(17, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 10, 17, -20,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 4603.09619 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS / (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	144.23282 (30, 1)	145.66747 (30, 1)	146.14886 (30, 1)	145.66754 (30, 1)	144.23299 (30, 1)
24000.0 /	151.08644 (30, 1)	152.70044 (30, 1)	153.24229 (30, 1)	152.70053 (30, 1)	151.08662 (30, 1)
23000.0 /	158.56168 (30, 1)	160.38647 (30, 1)	160.99942 (30, 1)	160.38657 (30, 1)	158.56186 (30, 1)
22000.0 /	166.74335 (30, 1)	168.81760 (30, 1)	169.51477 (30, 1)	168.81770 (30, 1)	166.74356 (30, 1)
21000.0 /	175.73206 (30, 1)	178.10371 (30, 1)	178.90140 (30, 1)	178.10382 (30, 1)	175.73227 (30, 1)
20000.0 /	185.64777 (30, 1)	188.37697 (30, 1)	189.29564 (30, 1)	188.37711 (30, 1)	185.64801 (30, 1)
19000.0 /	196.63464 (30, 1)	199.79758 (30, 1)	200.86319 (30, 1)	199.79770 (30, 1)	196.63492 (30, 1)
18000.0 /	208.86737 (30, 1)	212.56163 (30, 1)	213.80756 (30, 1)	212.56180 (30, 1)	208.86768 (30, 1)
17000.0 /	222.55933 (30, 1)	226.91168 (30, 1)	228.38135 (30, 1)	226.91187 (30, 1)	222.55966 (30, 1)
16000.0 /	237.97340 (30, 1)	243.15088 (30, 1)	244.90170 (30, 1)	243.15109 (30, 1)	237.97379 (30, 1)
15000.0 /	255.09952 (30, 1)	261.31747 (30, 1)	263.42371 (30, 1)	261.31769 (30, 1)	255.09991 (30, 1)
14000.0 /	276.02948 (30, 1)	283.62790 (30, 1)	286.20700 (30, 1)	283.62814 (30, 1)	276.02994 (30, 1)
13000.0 /	300.54776 (30, 1)	309.97751 (30, 1)	313.18616 (30, 1)	309.97778 (30, 1)	300.54831 (30, 1)
12000.0 /	329.10361 (30, 1)	340.99915 (30, 1)	345.05923 (30, 1)	340.99948 (30, 1)	329.10425 (30, 1)
11000.0 /	362.67892 (30, 1)	377.97278 (30, 1)	383.21289 (30, 1)	377.97321 (30, 1)	362.67969 (30, 1)
10000.0 /	402.56561 (30, 1)	422.67188 (30, 1)	429.59491 (30, 1)	422.67233 (30, 1)	402.56653 (30, 1)
9000.0 /	450.47385 (30, 1)	477.61670 (30, 1)	487.02332 (30, 1)	477.61731 (30, 1)	450.47495 (30, 1)
8000.0 /	508.66241 (30, 1)	546.49530 (30, 1)	559.72205 (30, 1)	546.49603 (30, 1)	508.66373 (30, 1)
7000.0 /	579.28320 (30, 1)	634.05432 (30, 1)	653.43982 (30, 1)	634.05518 (30, 1)	579.28491 (30, 1)
6000.0 /	668.35754 (30, 1)	751.90833 (30, 1)	782.02039 (30, 1)	751.90948 (30, 1)	668.35974 (30, 1)
5000.0 /	779.65765 (30, 1)	915.79602 (30, 1)	966.27289 (30, 1)	915.79761 (30, 1)	779.66046 (30, 1)
4000.0 /	908.06958 (30, 1)	1148.72913 (30, 1)	1242.39270 (30, 1)	1148.73145 (30, 1)	908.07336 (30, 1)
3000.0 /	1019.29602 (30, 1)	1491.51733 (30, 1)	1693.45752 (30, 1)	1491.52100 (30, 1)	1019.30103 (30, 1)
2000.0 /	1042.73169 (25, 1)	1982.48535 (30, 1)	2536.72217 (30, 1)	1982.49121 (30, 1)	1042.73499 (25, 1)
1000.0 /	1022.49371 (16, 1)	2494.79834 (25, 1)	4603.09619 (30, 1)	2494.80371 (25, 1)	1022.49670 (16, 1)

1

HIGH
1-HR
SGROUP# 1(

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 10, 17, -20,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.00000	(0, 0)
0.0	50.0	0.00000	(0, 0)	50.0	50.0	0.00000	(0, 0)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.00000	(0, 0)
-50.0	100.0	185.67094	(1, 1)	0.0	100.0	731.11090	(16, 1)
50.0	100.0	185.67104	(1, 1)	100.0	100.0	0.00000	(0, 0)
-100.0	200.0	98.39196	(1, 1)	-50.0	200.0	552.76807	(4, 1)
0.0	200.0	1932.77295	(16, 1)	50.0	200.0	552.76849	(4, 1)
100.0	200.0	98.39209	(1, 1)	-100.0	300.0	261.39261	(1, 1)
-50.0	300.0	1554.13916	(4, 1)	0.0	300.0	6643.70020	(16, 1)
50.0	300.0	1554.14038	(4, 1)	100.0	300.0	261.39288	(1, 1)
-100.0	400.0	452.06458	(1, 1)	-50.0	400.0	2451.03809	(4, 1)
0.0	400.0	8888.57227	(16, 1)	50.0	400.0	2451.03979	(4, 1)
100.0	400.0	452.06500	(1, 1)	-100.0	500.0	742.65070	(4, 1)
-50.0	500.0	2651.41333	(9, 1)	0.0	500.0	7411.96582	(30, 1)
50.0	500.0	2651.41650	(9, 1)	100.0	500.0	742.65173	(4, 1)
-100.0	600.0	850.58484	(4, 1)	-50.0	600.0	2793.72900	(16, 1)
0.0	600.0	6608.05469	(30, 1)	50.0	600.0	2793.73364	(16, 1)
100.0	600.0	850.58582	(4, 1)	-100.0	700.0	869.98492	(9, 1)
-50.0	700.0	2795.84424	(16, 1)	0.0	700.0	5962.21680	(30, 1)
50.0	700.0	2795.84888	(16, 1)	100.0	700.0	869.98651	(9, 1)
-100.0	800.0	913.05994	(9, 1)	-50.0	800.0	2665.64429	(16, 1)
0.0	800.0	5431.13184	(30, 1)	50.0	800.0	2665.64868	(16, 1)
100.0	800.0	913.06152	(9, 1)	-100.0	900.0	930.23212	(16, 1)
-50.0	900.0	2552.04907	(25, 1)	0.0	900.0	4984.63037	(30, 1)
50.0	900.0	2552.05493	(25, 1)	100.0	900.0	930.23486	(16, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 10, 17, -20,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 3795.74268 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS / (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	72.11641 (31, 1)	72.83373 (31, 1)	73.07443 (31, 1)	72.83377 (31, 1)	72.11649 (31, 1)
24000.0 /	75.54322 (31, 1)	76.35022 (31, 1)	76.62115 (31, 1)	76.35027 (31, 1)	75.54331 (31, 1)
23000.0 /	79.28084 (31, 1)	80.19324 (31, 1)	80.49971 (31, 1)	80.19328 (31, 1)	79.28093 (31, 1)
22000.0 /	83.37167 (31, 1)	84.40880 (31, 1)	84.75739 (31, 1)	84.40885 (31, 1)	83.37178 (31, 1)
21000.0 /	87.86603 (31, 1)	89.05186 (31, 1)	89.45070 (31, 1)	89.05191 (31, 1)	87.86613 (31, 1)
20000.0 /	92.82388 (31, 1)	94.18848 (31, 1)	94.64782 (31, 1)	94.18855 (31, 1)	92.82401 (31, 1)
19000.0 /	98.31732 (31, 1)	99.89879 (31, 1)	100.43159 (31, 1)	99.89885 (31, 1)	98.31746 (31, 1)
18000.0 /	104.43369 (31, 1)	106.28082 (31, 1)	106.90378 (31, 1)	106.28090 (31, 1)	104.43384 (31, 1)
17000.0 /	111.27966 (31, 1)	113.45584 (31, 1)	114.19067 (31, 1)	113.45593 (31, 1)	111.27983 (31, 1)
16000.0 /	118.98670 (31, 1)	121.57544 (31, 1)	122.45085 (31, 1)	121.57555 (31, 1)	118.98689 (31, 1)
15000.0 /	127.54976 (31, 1)	130.65874 (31, 1)	131.71185 (31, 1)	130.65884 (31, 1)	127.54996 (31, 1)
14000.0 /	138.01474 (31, 1)	141.81395 (31, 1)	143.10350 (31, 1)	141.81407 (31, 1)	138.01497 (31, 1)
13000.0 /	150.27388 (31, 1)	154.98875 (31, 1)	156.59308 (31, 1)	154.98889 (31, 1)	150.27415 (31, 1)
12000.0 /	164.55180 (31, 1)	170.49957 (31, 1)	172.52962 (31, 1)	170.49974 (31, 1)	164.55212 (31, 1)
11000.0 /	181.33946 (31, 1)	188.98639 (31, 1)	191.60645 (31, 1)	188.98660 (31, 1)	181.33984 (31, 1)
10000.0 /	204.37915 (25, 1)	211.33594 (31, 1)	214.79745 (31, 1)	211.33617 (31, 1)	204.37936 (25, 1)
9000.0 /	234.11835 (25, 1)	240.48608 (25, 1)	243.51166 (31, 1)	240.48621 (25, 1)	234.11859 (25, 1)
8000.0 /	272.10233 (25, 1)	281.24359 (25, 1)	284.35852 (25, 1)	281.24377 (25, 1)	272.10263 (25, 1)
7000.0 /	321.68454 (25, 1)	335.42831 (25, 1)	340.13898 (25, 1)	335.42853 (25, 1)	321.68497 (25, 1)
6000.0 /	388.29144 (25, 1)	410.21997 (25, 1)	417.80164 (25, 1)	410.22028 (25, 1)	388.29202 (25, 1)
5000.0 /	480.71848 (25, 1)	518.58112 (25, 1)	531.85431 (25, 1)	518.58154 (25, 1)	480.71930 (25, 1)
4000.0 /	610.86047 (25, 1)	683.52606 (25, 1)	709.62402 (25, 1)	683.52679 (25, 1)	610.86176 (25, 1)
3000.0 /	808.30383 (25, 1)	974.08801 (25, 1)	1036.61108 (25, 1)	974.08917 (25, 1)	808.30579 (25, 1)
2000.0 /	948.12646 (30, 1)	1523.72217 (25, 1)	1729.42920 (25, 1)	1523.72461 (25, 1)	948.13220 (30, 1)
1000.0 /	840.32672 (9, 1)	2307.12549 (16, 1)	3795.74268 (25, 1)	2307.12891 (16, 1)	840.32794 (9, 1)

1

2ND HIGH
1-HR
SGROUP# 1

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 10, 17, -20,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.00000	(0, 0)
0.0	50.0	0.00000	(0, 0)	50.0	50.0	0.00000	(0, 0)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.00000	(0, 0)
-50.0	100.0	159.95245	(4, 1)	0.0	100.0	680.24164	(25, 1)
50.0	100.0	159.95264	(4, 1)	100.0	100.0	0.00000	(0, 0)
-100.0	200.0	54.59239	(4, 1)	-50.0	200.0	525.42151	(1, 1)
0.0	200.0	1849.83545	(25, 1)	50.0	200.0	525.42181	(1, 1)
100.0	200.0	54.59249	(4, 1)	-100.0	300.0	197.66733	(4, 1)
-50.0	300.0	1499.74426	(1, 1)	0.0	300.0	6287.18848	(25, 1)
50.0	300.0	1499.74512	(1, 1)	100.0	300.0	197.66759	(4, 1)
-100.0	400.0	435.12714	(4, 1)	-50.0	400.0	2324.09644	(9, 1)
0.0	400.0	8625.88770	(25, 1)	50.0	400.0	2324.09888	(9, 1)
100.0	400.0	435.12778	(4, 1)	-100.0	500.0	640.86761	(1, 1)
-50.0	500.0	2540.28198	(16, 1)	0.0	500.0	7194.31299	(25, 1)
50.0	500.0	2540.28662	(16, 1)	100.0	500.0	640.86816	(1, 1)
-100.0	600.0	724.31226	(9, 1)	-50.0	600.0	2458.18799	(9, 1)
0.0	600.0	6154.84082	(25, 1)	50.0	600.0	2458.19043	(9, 1)
100.0	600.0	724.31372	(9, 1)	-100.0	700.0	792.04272	(4, 1)
-50.0	700.0	2493.55176	(25, 1)	0.0	700.0	5359.97021	(25, 1)
50.0	700.0	2493.55762	(25, 1)	100.0	700.0	792.04346	(4, 1)
-100.0	800.0	788.31824	(16, 1)	-50.0	800.0	2562.98560	(25, 1)
0.0	800.0	4728.52881	(25, 1)	50.0	800.0	2562.99170	(25, 1)
100.0	800.0	788.32074	(16, 1)	-100.0	900.0	892.42261	(9, 1)
-50.0	900.0	2492.77173	(16, 1)	0.0	900.0	4215.99609	(25, 1)
50.0	900.0	2492.77539	(16, 1)	100.0	900.0	892.42395	(9, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 11,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 321.51962 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	4.84514 (30, 1)	4.89426 (30, 1)	4.91074 (30, 1)	4.89426 (30, 1)	4.84515 (30, 1)
24000.0 /	5.08298 (30, 1)	5.13837 (30, 1)	5.15696 (30, 1)	5.13837 (30, 1)	5.08299 (30, 1)
23000.0 /	5.34304 (30, 1)	5.40582 (30, 1)	5.42691 (30, 1)	5.40582 (30, 1)	5.34305 (30, 1)
22000.0 /	5.62845 (30, 1)	5.70000 (30, 1)	5.72405 (30, 1)	5.70000 (30, 1)	5.62846 (30, 1)
21000.0 /	5.94292 (30, 1)	6.02496 (30, 1)	6.05256 (30, 1)	6.02497 (30, 1)	5.94292 (30, 1)
20000.0 /	6.29090 (30, 1)	6.38562 (30, 1)	6.41751 (30, 1)	6.38562 (30, 1)	6.29091 (30, 1)
19000.0 /	6.67780 (30, 1)	6.78794 (30, 1)	6.82506 (30, 1)	6.78795 (30, 1)	6.67781 (30, 1)
18000.0 /	7.11016 (30, 1)	7.23930 (30, 1)	7.28286 (30, 1)	7.23930 (30, 1)	7.11017 (30, 1)
17000.0 /	7.59605 (30, 1)	7.74884 (30, 1)	7.80045 (30, 1)	7.74885 (30, 1)	7.59607 (30, 1)
16000.0 /	8.14550 (30, 1)	8.32811 (30, 1)	8.38988 (30, 1)	8.32811 (30, 1)	8.14552 (30, 1)
15000.0 /	8.77107 (30, 1)	8.99181 (30, 1)	9.06662 (30, 1)	8.99181 (30, 1)	8.77108 (30, 1)
14000.0 /	9.54435 (30, 1)	9.81625 (30, 1)	9.90860 (30, 1)	9.81626 (30, 1)	9.54437 (30, 1)
13000.0 /	10.44478 (30, 1)	10.78484 (30, 1)	10.90064 (30, 1)	10.78485 (30, 1)	10.44480 (30, 1)
12000.0 /	11.50325 (30, 1)	11.93609 (30, 1)	12.08396 (30, 1)	11.93610 (30, 1)	11.50328 (30, 1)
11000.0 /	12.76112 (30, 1)	13.32342 (30, 1)	13.51631 (30, 1)	13.32343 (30, 1)	12.76115 (30, 1)
10000.0 /	14.27404 (30, 1)	15.02238 (30, 1)	15.28046 (30, 1)	15.02240 (30, 1)	14.27407 (30, 1)
9000.0 /	16.11782 (30, 1)	17.14297 (30, 1)	17.49898 (30, 1)	17.14299 (30, 1)	16.11786 (30, 1)
8000.0 /	18.39625 (30, 1)	19.85087 (30, 1)	20.36087 (30, 1)	19.85090 (30, 1)	18.39631 (30, 1)
7000.0 /	21.24998 (30, 1)	23.40597 (30, 1)	24.17220 (30, 1)	23.40600 (30, 1)	21.25005 (30, 1)
6000.0 /	25.03758 (30, 1)	28.43897 (30, 1)	29.67253 (30, 1)	28.43902 (30, 1)	25.03767 (30, 1)
5000.0 /	29.85591 (30, 1)	35.62704 (30, 1)	37.78881 (30, 1)	35.62711 (30, 1)	29.85604 (30, 1)
4000.0 /	35.68105 (30, 1)	46.46416 (30, 1)	50.73939 (30, 1)	46.46427 (30, 1)	35.68122 (30, 1)
3000.0 /	40.94310 (30, 1)	63.81438 (30, 1)	73.98862 (30, 1)	63.81458 (30, 1)	40.94336 (30, 1)
2000.0 /	37.36343 (30, 1)	94.21528 (30, 1)	128.23705 (30, 1)	94.21569 (30, 1)	37.36376 (30, 1)
1000.0 /	29.15644 (16, 1)	108.23864 (30, 1)	321.51962 (30, 1)	108.23948 (30, 1)	29.15655 (16, 1)

1

HIGH
1-HR
SGROUP# 1

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 11,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	1.74409	(1, 1)
0.0	50.0	727.02679	(1, 1)	50.0	50.0	1.74410	(1, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.39538	(1, 1)
-50.0	100.0	71.69135	(1, 1)	0.0	100.0	859.05817	(9, 1)
50.0	100.0	71.67713	(1, 1)	100.0	100.0	0.39530	(1, 1)
-100.0	200.0	17.09622	(1, 1)	-50.0	200.0	91.40515	(4, 1)
0.0	200.0	749.83929	(25, 1)	50.0	200.0	91.40529	(4, 1)
100.0	200.0	17.09498	(1, 1)	-100.0	300.0	21.38249	(1, 1)
-50.0	300.0	86.28401	(9, 1)	0.0	300.0	690.58661	(25, 1)
50.0	300.0	86.28421	(9, 1)	100.0	300.0	21.38251	(1, 1)
-100.0	400.0	23.61994	(4, 1)	-50.0	400.0	83.47633	(16, 1)
0.0	400.0	696.23999	(30, 1)	50.0	400.0	83.47666	(16, 1)
100.0	400.0	23.61998	(4, 1)	-100.0	500.0	21.97112	(4, 1)
-50.0	500.0	98.31222	(16, 1)	0.0	500.0	640.96350	(30, 1)
50.0	500.0	98.31252	(16, 1)	100.0	500.0	21.97115	(4, 1)
-100.0	600.0	23.20824	(9, 1)	-50.0	600.0	97.83079	(16, 1)
0.0	600.0	560.70905	(30, 1)	50.0	600.0	97.83108	(16, 1)
100.0	600.0	23.20831	(9, 1)	-100.0	700.0	23.66846	(9, 1)
-50.0	700.0	106.89282	(25, 1)	0.0	700.0	483.75983	(30, 1)
50.0	700.0	106.89330	(25, 1)	100.0	700.0	23.66851	(9, 1)
-100.0	800.0	24.39562	(16, 1)	-50.0	800.0	108.04681	(25, 1)
0.0	800.0	419.02484	(30, 1)	50.0	800.0	108.04723	(25, 1)
100.0	800.0	24.39573	(16, 1)	-100.0	900.0	27.57254	(16, 1)
-50.0	900.0	104.63944	(25, 1)	0.0	900.0	365.60510	(30, 1)
50.0	900.0	104.63983	(25, 1)	100.0	900.0	27.57265	(16, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 11,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 160.75981 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS / (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	0.0
25000.0 /	2.42257 (31, 1)	2.44713 (31, 1)	2.45537 (31, 1)	2.44713 (31, 1)	2.42257 (31, 1)
24000.0 /	2.54149 (31, 1)	2.56918 (31, 1)	2.57848 (31, 1)	2.56919 (31, 1)	2.54149 (31, 1)
23000.0 /	2.67152 (31, 1)	2.70291 (31, 1)	2.71345 (31, 1)	2.70291 (31, 1)	2.67152 (31, 1)
22000.0 /	2.81422 (31, 1)	2.85000 (31, 1)	2.86202 (31, 1)	2.85000 (31, 1)	2.81423 (31, 1)
21000.0 /	2.97146 (31, 1)	3.01248 (31, 1)	3.02628 (31, 1)	3.01248 (31, 1)	2.97146 (31, 1)
20000.0 /	3.14545 (31, 1)	3.19281 (31, 1)	3.20875 (31, 1)	3.19281 (31, 1)	3.14546 (31, 1)
19000.0 /	3.33890 (31, 1)	3.39397 (31, 1)	3.41253 (31, 1)	3.39397 (31, 1)	3.33890 (31, 1)
18000.0 /	3.55508 (31, 1)	3.61965 (31, 1)	3.64143 (31, 1)	3.61965 (31, 1)	3.55508 (31, 1)
17000.0 /	3.79803 (31, 1)	3.87442 (31, 1)	3.90023 (31, 1)	3.87442 (31, 1)	3.79803 (31, 1)
16000.0 /	4.07275 (31, 1)	4.16405 (31, 1)	4.19494 (31, 1)	4.16406 (31, 1)	4.07276 (31, 1)
15000.0 /	4.38553 (31, 1)	4.49590 (31, 1)	4.53331 (31, 1)	4.49591 (31, 1)	4.38554 (31, 1)
14000.0 /	4.77217 (31, 1)	4.90812 (31, 1)	4.95430 (31, 1)	4.90813 (31, 1)	4.77218 (31, 1)
13000.0 /	5.22239 (31, 1)	5.39242 (31, 1)	5.45032 (31, 1)	5.39243 (31, 1)	5.22240 (31, 1)
12000.0 /	5.75163 (31, 1)	5.96804 (31, 1)	6.04198 (31, 1)	5.96805 (31, 1)	5.75164 (31, 1)
11000.0 /	6.38056 (31, 1)	6.66171 (31, 1)	6.75815 (31, 1)	6.66172 (31, 1)	6.38057 (31, 1)
10000.0 /	7.13702 (31, 1)	7.51119 (31, 1)	7.64023 (31, 1)	7.51120 (31, 1)	7.13704 (31, 1)
9000.0 /	8.05891 (31, 1)	8.57148 (31, 1)	8.74949 (31, 1)	8.57149 (31, 1)	8.05893 (31, 1)
8000.0 /	9.19813 (31, 1)	9.92544 (31, 1)	10.18044 (31, 1)	9.92545 (31, 1)	9.19815 (31, 1)
7000.0 /	10.62499 (31, 1)	11.70298 (31, 1)	12.08610 (31, 1)	11.70300 (31, 1)	10.62502 (31, 1)
6000.0 /	12.51879 (31, 1)	14.21948 (31, 1)	14.83626 (31, 1)	14.21951 (31, 1)	12.51884 (31, 1)
5000.0 /	14.92796 (31, 1)	17.81352 (31, 1)	18.89440 (31, 1)	17.81356 (31, 1)	14.92802 (31, 1)
4000.0 /	18.49187 (25, 1)	23.23208 (31, 1)	25.36970 (31, 1)	23.23214 (31, 1)	18.49191 (25, 1)
3000.0 /	25.21121 (25, 1)	31.90719 (31, 1)	36.99431 (31, 1)	31.90729 (31, 1)	25.21128 (25, 1)
2000.0 /	33.97329 (25, 1)	51.16428 (25, 1)	64.11852 (31, 1)	51.16438 (25, 1)	33.97342 (25, 1)
1000.0 /	23.33709 (25, 1)	99.01598 (25, 1)	160.75981 (31, 1)	99.01631 (25, 1)	23.33724 (25, 1)

1

2ND HIGH
1-HR
SGROUP# 1

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 11,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.87205	(2, 1)
0.0	50.0	684.74896	(4, 1)	50.0	50.0	0.87205	(2, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.19769	(2, 1)
-50.0	100.0	35.84568	(2, 1)	0.0	100.0	616.65424	(4, 1)
50.0	100.0	35.83857	(2, 1)	100.0	100.0	0.19765	(2, 1)
-100.0	200.0	8.54811	(2, 1)	-50.0	200.0	76.75468	(1, 1)
0.0	200.0	743.57355	(16, 1)	50.0	200.0	76.75473	(1, 1)
100.0	200.0	8.54749	(2, 1)	-100.0	300.0	18.87013	(4, 1)
-50.0	300.0	74.71481	(4, 1)	0.0	300.0	640.43237	(30, 1)
50.0	300.0	74.71488	(4, 1)	100.0	300.0	18.87016	(4, 1)
-100.0	400.0	16.48533	(1, 1)	-50.0	400.0	82.77048	(9, 1)
0.0	400.0	538.38446	(25, 1)	50.0	400.0	82.77062	(9, 1)
100.0	400.0	16.48534	(1, 1)	-100.0	500.0	19.92346	(9, 1)
-50.0	500.0	75.54939	(25, 1)	0.0	500.0	418.81644	(25, 1)
50.0	500.0	75.54983	(25, 1)	100.0	500.0	19.92352	(9, 1)
-100.0	600.0	18.84398	(4, 1)	-50.0	600.0	97.50517	(25, 1)
0.0	600.0	332.25809	(25, 1)	50.0	600.0	97.50568	(25, 1)
100.0	600.0	18.84400	(4, 1)	-100.0	700.0	19.30298	(16, 1)
-50.0	700.0	90.93816	(16, 1)	0.0	700.0	269.43289	(25, 1)
50.0	700.0	90.93839	(16, 1)	100.0	700.0	19.30308	(16, 1)
-100.0	800.0	22.65989	(9, 1)	-50.0	800.0	82.15688	(16, 1)
0.0	800.0	222.89825	(25, 1)	50.0	800.0	82.15706	(16, 1)
100.0	800.0	22.65993	(9, 1)	-100.0	900.0	21.02827	(9, 1)
-50.0	900.0	97.69089	(30, 1)	0.0	900.0	187.62512	(25, 1)
50.0	900.0	97.69171	(30, 1)	100.0	900.0	21.02831	(9, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 12,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 197.91368 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS)	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0	85.97548 (30, 1)	86.84358 (30, 1)	87.13491 (30, 1)	86.84363 (30, 1)	85.97558 (30, 1)
24000.0	86.92712 (30, 1)	87.87025 (30, 1)	88.18690 (30, 1)	87.87030 (30, 1)	86.92722 (30, 1)
23000.0	87.88090 (30, 1)	88.90863 (30, 1)	89.25389 (30, 1)	88.90868 (30, 1)	87.88100 (30, 1)
22000.0	88.83333 (30, 1)	89.95692 (30, 1)	90.33463 (30, 1)	89.95698 (30, 1)	88.83344 (30, 1)
21000.0	89.78010 (30, 1)	91.01285 (30, 1)	91.42754 (30, 1)	91.01291 (30, 1)	89.78022 (30, 1)
20000.0	92.19762 (25, 1)	92.80822 (25, 1)	93.01266 (25, 1)	92.80825 (25, 1)	92.19768 (25, 1)
19000.0	94.41190 (25, 1)	95.09638 (25, 1)	95.32565 (25, 1)	95.09641 (25, 1)	94.41196 (25, 1)
18000.0	96.64135 (25, 1)	97.41216 (25, 1)	97.67048 (25, 1)	97.41220 (25, 1)	96.64142 (25, 1)
17000.0	98.86644 (25, 1)	99.73880 (25, 1)	100.03130 (25, 1)	99.73883 (25, 1)	98.86651 (25, 1)
16000.0	101.06093 (25, 1)	102.05354 (25, 1)	102.38659 (25, 1)	102.05358 (25, 1)	101.06100 (25, 1)
15000.0	103.18948 (25, 1)	104.32564 (25, 1)	104.70714 (25, 1)	104.32568 (25, 1)	103.18957 (25, 1)
14000.0	105.20489 (25, 1)	106.51379 (25, 1)	106.95371 (25, 1)	106.51383 (25, 1)	105.20497 (25, 1)
13000.0	107.04393 (25, 1)	108.56270 (25, 1)	109.07375 (25, 1)	108.56275 (25, 1)	107.04402 (25, 1)
12000.0	108.62212 (25, 1)	110.39849 (25, 1)	110.99706 (25, 1)	110.39854 (25, 1)	108.62222 (25, 1)
11000.0	109.82607 (25, 1)	111.92230 (25, 1)	112.62992 (25, 1)	111.92236 (25, 1)	109.82617 (25, 1)
10000.0	110.50703 (25, 1)	113.00578 (25, 1)	113.85121 (25, 1)	113.00584 (25, 1)	110.50716 (25, 1)
9000.0	109.63860 (25, 1)	112.62904 (25, 1)	113.64389 (25, 1)	112.62910 (25, 1)	109.63873 (25, 1)
8000.0	107.55151 (25, 1)	111.16995 (25, 1)	112.40298 (25, 1)	111.17002 (25, 1)	107.55165 (25, 1)
7000.0	103.85400 (25, 1)	108.28750 (25, 1)	109.80702 (25, 1)	108.28757 (25, 1)	103.85413 (25, 1)
6000.0	98.04724 (25, 1)	103.55846 (25, 1)	105.46356 (25, 1)	103.55854 (25, 1)	98.04739 (25, 1)
5000.0	93.44489 (26, 1)	100.83946 (26, 1)	103.43217 (26, 1)	100.83955 (26, 1)	93.44506 (26, 1)
4000.0	85.22557 (27, 1)	95.45441 (27, 1)	99.12994 (27, 1)	95.45451 (27, 1)	85.22575 (27, 1)
3000.0	73.00607 (6, 1)	85.03900 (28, 1)	90.54494 (28, 1)	85.03911 (28, 1)	73.00610 (6, 1)
2000.0	93.19466 (6, 1)	108.79891 (23, 1)	117.30735 (23, 1)	108.79903 (23, 1)	93.19470 (6, 1)
1000.0	127.76686 (3, 1)	152.30154 (24, 1)	197.91368 (24, 1)	152.30182 (24, 1)	127.76691 (3, 1)

1

HIGH
1-HR
SGROUP# 1

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 12,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	2.25952	(30, 1)
0.0	50.0	6.61481	(30, 1)	50.0	50.0	2.25953	(30, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	1.89915	(25, 1)
-50.0	100.0	11.91097	(30, 1)	0.0	100.0	27.43307	(30, 1)
50.0	100.0	11.91098	(30, 1)	100.0	100.0	1.89918	(25, 1)
-100.0	200.0	2.19681	(25, 1)	-50.0	200.0	12.53181	(30, 1)
0.0	200.0	28.19645	(30, 1)	50.0	200.0	12.53182	(30, 1)
100.0	200.0	2.19682	(25, 1)	-100.0	300.0	2.67565	(25, 1)
-50.0	300.0	13.38825	(30, 1)	0.0	300.0	46.01089	(24, 1)
50.0	300.0	13.38828	(30, 1)	100.0	300.0	2.67566	(25, 1)
-100.0	400.0	4.57809	(3, 1)	-50.0	400.0	28.26655	(24, 1)
0.0	400.0	111.29813	(24, 1)	50.0	400.0	28.26665	(24, 1)
100.0	400.0	4.57809	(3, 1)	-100.0	500.0	36.34842	(3, 1)
-50.0	500.0	64.74715	(24, 1)	0.0	500.0	161.62210	(24, 1)
50.0	500.0	64.74734	(24, 1)	100.0	500.0	36.34845	(3, 1)
-100.0	600.0	100.19145	(3, 1)	-50.0	600.0	119.90628	(3, 1)
0.0	600.0	191.66087	(24, 1)	50.0	600.0	119.90631	(3, 1)
100.0	600.0	100.19151	(3, 1)	-100.0	700.0	138.83377	(3, 1)
-50.0	700.0	159.39455	(3, 1)	0.0	700.0	205.85823	(24, 1)
50.0	700.0	159.39458	(3, 1)	100.0	700.0	138.83383	(3, 1)
-100.0	800.0	143.72737	(3, 1)	-50.0	800.0	160.43352	(3, 1)
0.0	800.0	209.27173	(24, 1)	50.0	800.0	160.43356	(3, 1)
100.0	800.0	143.72743	(3, 1)	-100.0	900.0	136.04955	(3, 1)
-50.0	900.0	150.12157	(24, 1)	0.0	900.0	205.84291	(24, 1)
50.0	900.0	150.12187	(24, 1)	100.0	900.0	136.04961	(3, 1)

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 12,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 159.75444 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	80.75407 (25, 1)	81.11515 (25, 1)	81.23588 (25, 1)	81.11517 (25, 1)	80.75410 (25, 1)
24000.0 /	82.84669 (25, 1)	83.24469 (25, 1)	83.37778 (25, 1)	83.24471 (25, 1)	82.84673 (25, 1)
23000.0 /	85.03292 (25, 1)	85.47318 (25, 1)	85.62045 (25, 1)	85.47321 (25, 1)	85.03297 (25, 1)
22000.0 /	87.31731 (25, 1)	87.80618 (25, 1)	87.96976 (25, 1)	87.80621 (25, 1)	87.31735 (25, 1)
21000.0 /	89.70416 (25, 1)	90.24930 (25, 1)	90.43176 (25, 1)	90.24932 (25, 1)	89.70422 (25, 1)
20000.0 /	90.71580 (30, 1)	92.07352 (30, 1)	92.53061 (30, 1)	92.07358 (30, 1)	90.71592 (30, 1)
19000.0 /	91.63362 (30, 1)	93.13528 (30, 1)	93.64131 (30, 1)	93.13535 (30, 1)	91.63376 (30, 1)
18000.0 /	92.52495 (30, 1)	94.19349 (30, 1)	94.75636 (30, 1)	94.19357 (30, 1)	92.52509 (30, 1)
17000.0 /	93.37881 (30, 1)	95.24221 (30, 1)	95.87160 (30, 1)	95.24229 (30, 1)	93.37895 (30, 1)
16000.0 /	94.18125 (30, 1)	96.27403 (30, 1)	96.98193 (30, 1)	96.27411 (30, 1)	94.18140 (30, 1)
15000.0 /	94.91418 (30, 1)	97.27934 (30, 1)	98.08079 (30, 1)	97.27943 (30, 1)	94.91434 (30, 1)
14000.0 /	94.27067 (30, 1)	96.92638 (30, 1)	97.82818 (30, 1)	96.92648 (30, 1)	94.27084 (30, 1)
13000.0 /	93.33968 (30, 1)	96.34003 (30, 1)	97.36146 (30, 1)	96.34013 (30, 1)	93.33985 (30, 1)
12000.0 /	92.32870 (31, 1)	95.77052 (31, 1)	96.94611 (31, 1)	95.77061 (31, 1)	92.32890 (31, 1)
11000.0 /	92.34281 (31, 1)	96.36761 (31, 1)	97.74786 (31, 1)	96.36771 (31, 1)	92.34301 (31, 1)
10000.0 /	94.31758 (26, 1)	96.62858 (31, 1)	98.26756 (31, 1)	96.62869 (31, 1)	94.31768 (26, 1)
9000.0 /	96.71469 (26, 1)	99.36781 (26, 1)	100.26828 (26, 1)	99.36787 (26, 1)	96.71481 (26, 1)
8000.0 /	98.40830 (26, 1)	101.74267 (26, 1)	102.87907 (26, 1)	101.74273 (26, 1)	98.40842 (26, 1)
7000.0 /	98.94592 (26, 1)	103.20808 (26, 1)	104.66924 (26, 1)	103.20815 (26, 1)	98.94605 (26, 1)
6000.0 /	97.63933 (26, 1)	103.19312 (26, 1)	105.11375 (26, 1)	103.19321 (26, 1)	97.63948 (26, 1)
5000.0 /	90.49040 (27, 1)	97.69943 (27, 1)	100.22791 (27, 1)	97.69952 (27, 1)	90.49056 (27, 1)
4000.0 /	84.79818 (26, 1)	94.87349 (26, 1)	98.49129 (26, 1)	94.87360 (26, 1)	84.79836 (26, 1)
3000.0 /	71.52300 (11, 1)	84.78855 (29, 1)	90.31164 (29, 1)	84.78866 (29, 1)	71.52304 (11, 1)
2000.0 /	86.80065 (23, 1)	105.13165 (24, 1)	113.40574 (24, 1)	105.13176 (24, 1)	86.80083 (23, 1)
1000.0 /	90.12564 (15, 1)	137.96683 (3, 1)	159.75444 (23, 1)	137.96686 (3, 1)	90.12578 (15, 1)

1

2ND HIGH
1-HR
SGROUP# 1

*** PGV SCENARIOS - W/O DOWNWASH & W/ 10M FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 12,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	0.06823	(25, 1)
0.0	50.0	0.20215	(25, 1)	50.0	50.0	0.06823	(25, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	0.97491	(30, 1)
-50.0	100.0	10.73893	(25, 1)	0.0	100.0	19.13204	(25, 1)
50.0	100.0	10.73906	(25, 1)	100.0	100.0	0.97491	(30, 1)
-100.0	200.0	1.10020	(30, 1)	-50.0	200.0	11.52687	(25, 1)
0.0	200.0	23.69027	(31, 1)	50.0	200.0	11.52688	(25, 1)
100.0	200.0	1.10020	(30, 1)	-100.0	300.0	1.29970	(30, 1)
-50.0	300.0	12.66213	(25, 1)	0.0	300.0	29.13069	(30, 1)
50.0	300.0	12.66215	(25, 1)	100.0	300.0	1.29971	(30, 1)
-100.0	400.0	3.79739	(15, 1)	-50.0	400.0	21.40659	(15, 1)
0.0	400.0	38.09795	(15, 1)	50.0	400.0	21.40662	(15, 1)
100.0	400.0	3.79741	(15, 1)	-100.0	500.0	16.95467	(15, 1)
-50.0	500.0	54.03200	(15, 1)	0.0	500.0	79.51305	(15, 1)
50.0	500.0	54.03207	(15, 1)	100.0	500.0	16.95472	(15, 1)
-100.0	600.0	37.24237	(15, 1)	-50.0	600.0	99.30930	(24, 1)
0.0	600.0	127.30508	(3, 1)	50.0	600.0	99.30958	(24, 1)
100.0	600.0	37.24245	(15, 1)	-100.0	700.0	57.69095	(15, 1)
-50.0	700.0	125.19052	(24, 1)	0.0	700.0	166.90381	(3, 1)
50.0	700.0	125.19083	(24, 1)	100.0	700.0	57.69107	(15, 1)
-100.0	800.0	73.88206	(15, 1)	-50.0	800.0	141.60909	(24, 1)
0.0	800.0	166.42314	(3, 1)	50.0	800.0	141.60939	(24, 1)
100.0	800.0	73.88219	(15, 1)	-100.0	900.0	84.55991	(15, 1)
-50.0	900.0	148.93665	(3, 1)	0.0	900.0	156.70203	(23, 1)
50.0	900.0	148.93668	(3, 1)	100.0	900.0	84.56005	(15, 1)

RUN ENDED ON 01-13-92 AT 08:16:10

1 ISCST - (DATED 90346)

IBM-PC VERSION (2.04)
(C) COPYRIGHT 1990, TRINITY CONSULTANTS, INC.
SERIAL NUMBER 6688 SOLD TO ENVIRONMENTAL MANAGMENT ASSOCIATES
RUN BEGAN ON 12-09-91 AT 02:47:39

1 *** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)	ISW(1) =	1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)	ISW(2) =	3
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)	ISW(3) =	1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)	ISW(4) =	0
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)	ISW(5) =	0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)	ISW(6) =	2
COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)		
WITH THE FOLLOWING TIME PERIODS:		
HOURLY (YES=1,NO=0)	ISW(7) =	1
2-HOUR (YES=1,NO=0)	ISW(8) =	0
3-HOUR (YES=1,NO=0)	ISW(9) =	0
4-HOUR (YES=1,NO=0)	ISW(10) =	0
6-HOUR (YES=1,NO=0)	ISW(11) =	0
8-HOUR (YES=1,NO=0)	ISW(12) =	0
12-HOUR (YES=1,NO=0)	ISW(13) =	0
24-HOUR (YES=1,NO=0)	ISW(14) =	0
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)	ISW(15) =	0
PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE		
SPECIFIED BY ISW(7) THROUGH ISW(14):		
DAILY TABLES (YES=1,NO=0)	ISW(16) =	0
HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)	ISW(17) =	1
MAXIMUM 50 TABLES (YES=1,NO=0)	ISW(18) =	0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)	ISW(19) =	2
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)	ISW(20) =	0
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)	ISW(21) =	1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)	ISW(22) =	1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)	ISW(23) =	0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)	ISW(24) =	1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)	ISW(25) =	1
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)	ISW(26) =	1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)	ISW(27) =	2
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)	ISW(28) =	2
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)	ISW(29) =	2
DEBUG OPTION CHOSEN (YES=1,NO=2)	ISW(30) =	2
ABOVE GROUND (FLAGPOLE) RECEPTORS USED (YES=1,NO=0)	ISW(31) =	1

NUMBER OF INPUT SOURCES	NSOURC =	1
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)	NGROUP =	1
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)	IPERD =	0
NUMBER OF X (RANGE) GRID VALUES	NXPNTS =	5
NUMBER OF Y (THETA) GRID VALUES	NYPNTS =	25
NUMBER OF DISCRETE RECEPTORS	NXWYPT =	50
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA	NHOURS =	1
NUMBER OF DAYS OF METEOROLOGICAL DATA	NDAYS =	33
SOURCE EMISSION RATE UNITS CONVERSION FACTOR	TK =	.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED	ZR =	10.00 METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA	IMET =	7
ALLOCATED DATA STORAGE	LIMIT =	43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN	MIMIT =	1817 WORDS

1

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

0 *** NUMBER OF SOURCE NUMBERS REQUIRED TO DEFINE SOURCE GROUPS ***
(NSOGRP)

1,

*** SOURCE NUMBERS DEFINING SOURCE GROUPS ***
(IDSOR)

1,

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** X-COORDINATES OF RECTANGULAR GRID SYSTEM ***
(METERS)

-100.0, -50.0, 0.0, 50.0, 100.0,

*** Y-COORDINATES OF RECTANGULAR GRID SYSTEM ***
(METERS)

1000.0, 2000.0, 3000.0, 4000.0, 5000.0, 6000.0, 7000.0, 8000.0, 9000.0, 10000.0,
11000.0, 12000.0, 13000.0, 14000.0, 15000.0, 16000.0, 17000.0, 18000.0, 19000.0, 20000.0,
21000.0, 22000.0, 23000.0, 24000.0, 25000.0,

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*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

*** X,Y COORDINATES OF DISCRETE RECEPTORS ***
(METERS)

(-100.0, 50.0),	(-50.0, 50.0),	(0.0, 50.0),	(50.0, 50.0),	(100.0, 50.0),
(-100.0, 100.0),	(-50.0, 100.0),	(0.0, 100.0),	(50.0, 100.0),	(100.0, 100.0),
(-100.0, 200.0),	(-50.0, 200.0),	(0.0, 200.0),	(50.0, 200.0),	(100.0, 200.0),
(-100.0, 300.0),	(-50.0, 300.0),	(0.0, 300.0),	(50.0, 300.0),	(100.0, 300.0),
(-100.0, 400.0),	(-50.0, 400.0),	(0.0, 400.0),	(50.0, 400.0),	(100.0, 400.0),
(-100.0, 500.0),	(-50.0, 500.0),	(0.0, 500.0),	(50.0, 500.0),	(100.0, 500.0),
(-100.0, 600.0),	(-50.0, 600.0),	(0.0, 600.0),	(50.0, 600.0),	(100.0, 600.0),
(-100.0, 700.0),	(-50.0, 700.0),	(0.0, 700.0),	(50.0, 700.0),	(100.0, 700.0),
(-100.0, 800.0),	(-50.0, 800.0),	(0.0, 800.0),	(50.0, 800.0),	(100.0, 800.0),
(-100.0, 900.0),	(-50.0, 900.0),	(0.0, 900.0),	(50.0, 900.0),	(100.0, 900.0),

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*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* ABOVE GROUND RECEPTOR HEIGHTS IN METERS *
* FOR THE RECEPTOR GRID *

Y-AXIS (METERS) /	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
24000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
23000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
22000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
21000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
20000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
19000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
18000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
17000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
16000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
15000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
14000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
13000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
12000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
11000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
10000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
9000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
8000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
7000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
6000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
5000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
4000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
3000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
2000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000
1000.0 /	10.00000	10.00000	10.00000	10.00000	10.00000

1

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* ABOVE GROUND RECEPTOR HEIGHTS IN METERS *
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	HGT.	- X -	- Y -	HGT.	- X -	- Y -	HGT.
-100.0	50.0	10.00000	-50.0	50.0	10.00000	0.0	50.0	10.00000
50.0	50.0	10.00000	100.0	50.0	10.00000	-100.0	100.0	10.00000
-50.0	100.0	10.00000	0.0	100.0	10.00000	50.0	100.0	10.00000
100.0	100.0	10.00000	-100.0	200.0	10.00000	-50.0	200.0	10.00000
0.0	200.0	10.00000	50.0	200.0	10.00000	100.0	200.0	10.00000
-100.0	300.0	10.00000	-50.0	300.0	10.00000	0.0	300.0	10.00000
50.0	300.0	10.00000	100.0	300.0	10.00000	-100.0	400.0	10.00000
-50.0	400.0	10.00000	0.0	400.0	10.00000	50.0	400.0	10.00000
100.0	400.0	10.00000	-100.0	500.0	10.00000	-50.0	500.0	10.00000
0.0	500.0	10.00000	50.0	500.0	10.00000	100.0	500.0	10.00000
-100.0	600.0	10.00000	-50.0	600.0	10.00000	0.0	600.0	10.00000
50.0	600.0	10.00000	100.0	600.0	10.00000	-100.0	700.0	10.00000
-50.0	700.0	10.00000	0.0	700.0	10.00000	50.0	700.0	10.00000
100.0	700.0	10.00000	-100.0	800.0	10.00000	-50.0	800.0	10.00000
0.0	800.0	10.00000	50.0	800.0	10.00000	100.0	800.0	10.00000
-100.0	900.0	10.00000	-50.0	900.0	10.00000	0.0	900.0	10.00000
50.0	900.0	10.00000	100.0	900.0	10.00000			

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

*** SOURCE DATA ***

SOURCE NUMBER	TYPE	WAKE	NUMBER PART. CATS.	EMISSION RATE TYPE=0,1 (GRAMS/SEC) TYPE=2 (GRAMS/SEC) *PER METER**2	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	HEIGHT (METERS)	TEMP. TYPE=0 (DEG.K); VERT.DIM TYPE=1 (METERS)	EXIT VEL. TYPE=0 (M/SEC); HORZ.DIM TYPE=1,2 (METERS)	DIAMETER TYPE=0 (METERS)	BLDG. HEIGHT TYPE=0 (METERS)	BLDG. LENGTH TYPE=0 (METERS)	BLDG. WIDTH TYPE=0 (METERS)
1	0	0	0	0.56447E+02	0.0	0.0	204.2	0.00	372.59	0.47	15.24	8.53	107.75	107.75

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 1 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	1.00	300.0	300.0	0.0000	1	0.0700	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 2 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	2.00	300.0	300.0	0.0000	1	0.0700	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 3 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	3.00	300.0	300.0	0.0000	1	0.0700	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 4 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	1.00	300.0	298.0	0.0000	2	0.0700	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 5 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	2.00	300.0	298.0	0.0000	2	0.0700	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 6 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	3.00	300.0	298.0	0.0000	2	0.0700	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 7 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	4.00	300.0	298.0	0.0000	2	0.0700	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 8 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	5.00	300.0	298.0	0.0000	2	0.0700	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 9 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	1.00	300.0	296.0	0.0000	3	0.1000	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 10 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	2.00	300.0	296.0	0.0000	3	0.1000	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 11 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	3.00	300.0	296.0	0.0000	3	0.1000	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 12 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	4.00	300.0	296.0	0.0000	3	0.1000	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 13 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	5.00	300.0	296.0	0.0000	3	0.1000	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 14 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	8.00	300.0	296.0	0.0000	3	0.1000	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 15 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	10.00	300.0	296.0	0.0000	3	0.1000	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 16 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	1.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 17 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	2.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 18 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	3.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 19 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	4.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 20 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	5.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 21 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	8.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 22 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	10.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 23 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	15.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 24 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	20.00	300.0	294.0	0.0000	4	0.1500	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 25 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	1.00	100.0	291.0	0.0200	5	0.3500	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 26 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	2.00	100.0	291.0	0.0200	5	0.3500	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 27 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	3.00	100.0	291.0	0.0200	5	0.3500	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 28 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	4.00	100.0	291.0	0.0200	5	0.3500	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 29 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	5.00	100.0	291.0	0.0200	5	0.3500	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 30 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	1.00	100.0	289.0	0.0350	6	0.5500	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 31 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	2.00	100.0	289.0	0.0350	6	0.5500	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 32 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	3.00	100.0	289.0	0.0350	6	0.5500	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* METEOROLOGICAL DATA FOR DAY 33 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	0.0	4.00	100.0	289.0	0.0350	6	0.5500	0.000000E+00

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 1,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 351.82184 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS)	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0	163.13535 (30, 1)	164.77403 (30, 1)	165.32394 (30, 1)	164.77414 (30, 1)	163.13554 (30, 1)
24000.0	167.31874 (30, 1)	169.12444 (30, 1)	169.73068 (30, 1)	169.12453 (30, 1)	167.31894 (30, 1)
23000.0	171.70819 (30, 1)	173.70523 (30, 1)	174.37610 (30, 1)	173.70534 (30, 1)	171.70840 (30, 1)
22000.0	176.31728 (30, 1)	178.53477 (30, 1)	179.28015 (30, 1)	178.53488 (30, 1)	176.31750 (30, 1)
21000.0	181.16019 (30, 1)	183.63312 (30, 1)	184.46495 (30, 1)	183.63324 (30, 1)	181.16043 (30, 1)
20000.0	186.25171 (30, 1)	189.02246 (30, 1)	189.95522 (30, 1)	189.02260 (30, 1)	186.25195 (30, 1)
19000.0	191.60670 (30, 1)	194.72710 (30, 1)	195.77853 (30, 1)	194.72723 (30, 1)	191.60698 (30, 1)
18000.0	197.23981 (30, 1)	200.77376 (30, 1)	201.96581 (30, 1)	200.77391 (30, 1)	197.24010 (30, 1)
17000.0	203.16454 (30, 1)	207.19168 (30, 1)	208.55177 (30, 1)	207.19183 (30, 1)	203.16486 (30, 1)
16000.0	209.39200 (30, 1)	214.01266 (30, 1)	215.57550 (30, 1)	214.01285 (30, 1)	209.39233 (30, 1)
15000.0	215.92868 (30, 1)	221.27090 (30, 1)	223.08092 (30, 1)	221.27109 (30, 1)	215.92905 (30, 1)
14000.0	222.54478 (30, 1)	228.76772 (30, 1)	230.88054 (30, 1)	228.76793 (30, 1)	222.54518 (30, 1)
13000.0	227.96710 (30, 1)	235.23897 (30, 1)	237.71419 (30, 1)	235.23920 (30, 1)	227.96753 (30, 1)
12000.0	233.20695 (30, 1)	241.78520 (30, 1)	244.71425 (30, 1)	241.78545 (30, 1)	233.20743 (30, 1)
11000.0	238.09055 (30, 1)	248.31888 (30, 1)	251.82513 (30, 1)	248.31914 (30, 1)	238.09106 (30, 1)
10000.0	242.36154 (30, 1)	254.70779 (30, 1)	258.96155 (30, 1)	254.70810 (30, 1)	242.36211 (30, 1)
9000.0	245.63710 (30, 1)	260.75232 (30, 1)	265.99478 (30, 1)	260.75266 (30, 1)	245.63771 (30, 1)
8000.0	247.33638 (30, 1)	266.14954 (30, 1)	272.73349 (30, 1)	266.14990 (30, 1)	247.33707 (30, 1)
7000.0	246.55670 (30, 1)	270.43149 (30, 1)	278.89301 (30, 1)	270.43188 (30, 1)	246.55745 (30, 1)
6000.0	242.76991 (30, 1)	273.88931 (30, 1)	285.12506 (30, 1)	273.88977 (30, 1)	242.77074 (30, 1)
5000.0	240.00279 (25, 1)	269.32825 (30, 1)	284.53781 (30, 1)	269.32877 (30, 1)	240.00322 (25, 1)
4000.0	232.05525 (25, 1)	268.76773 (31, 1)	291.59854 (31, 1)	268.76834 (31, 1)	232.05574 (25, 1)
3000.0	205.03297 (25, 1)	261.05402 (32, 1)	298.45581 (32, 1)	261.05478 (32, 1)	205.03349 (25, 1)
2000.0	151.95013 (26, 1)	245.72246 (33, 1)	319.96616 (33, 1)	245.72337 (33, 1)	151.95067 (26, 1)
1000.0	155.52745 (2, 1)	271.33798 (22, 1)	351.82184 (22, 1)	271.33847 (22, 1)	155.52751 (2, 1)

1

HIGH
1-HR
SGROUP# 1

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 1,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	45.88901	(3, 1)
0.0	50.0	26070.85742	(21, 1)	50.0	50.0	45.88908	(3, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	5.62570	(1, 1)
-50.0	100.0	292.36313	(3, 1)	0.0	100.0	9339.83398	(22, 1)
50.0	100.0	292.53482	(3, 1)	100.0	100.0	5.62822	(1, 1)
-100.0	200.0	94.75876	(3, 1)	-50.0	200.0	454.87006	(8, 1)
0.0	200.0	3145.88477	(22, 1)	50.0	200.0	454.87067	(8, 1)
100.0	200.0	94.77141	(3, 1)	-100.0	300.0	174.47876	(3, 1)
-50.0	300.0	415.12042	(15, 1)	0.0	300.0	1696.05713	(23, 1)
50.0	300.0	415.12131	(15, 1)	100.0	300.0	174.47890	(3, 1)
-100.0	400.0	197.15724	(3, 1)	-50.0	400.0	397.11081	(15, 1)
0.0	400.0	1086.02136	(23, 1)	50.0	400.0	397.11145	(15, 1)
100.0	400.0	197.15741	(3, 1)	-100.0	500.0	169.86418	(2, 1)
-50.0	500.0	341.00674	(15, 1)	0.0	500.0	764.71930	(23, 1)
50.0	500.0	341.00720	(15, 1)	100.0	500.0	169.86427	(2, 1)
-100.0	600.0	183.04256	(2, 1)	-50.0	600.0	298.20981	(23, 1)
0.0	600.0	574.94092	(23, 1)	50.0	600.0	298.21066	(23, 1)
100.0	600.0	183.04265	(2, 1)	-100.0	700.0	187.04300	(2, 1)
-50.0	700.0	302.38586	(23, 1)	0.0	700.0	498.52585	(23, 1)
50.0	700.0	302.38660	(23, 1)	100.0	700.0	187.04308	(2, 1)
-100.0	800.0	177.50082	(2, 1)	-50.0	800.0	293.87811	(23, 1)
0.0	800.0	435.90417	(23, 1)	50.0	800.0	293.87872	(23, 1)
100.0	800.0	177.50090	(2, 1)	-100.0	900.0	166.06297	(2, 1)
-50.0	900.0	283.48312	(23, 1)	0.0	900.0	390.17676	(23, 1)
50.0	900.0	283.48367	(23, 1)	100.0	900.0	166.06305	(2, 1)

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 1,
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 348.84018 AND OCCURRED AT (0.0, 1000.0) *

Y-AXIS (METERS)	X-AXIS (METERS) -100.0	-50.0	0.0	50.0	100.0
25000.0	113.82961 (31, 1)	114.97387 (31, 1)	115.35787 (31, 1)	114.97394 (31, 1)	113.82973 (31, 1)
24000.0	117.53057 (31, 1)	118.79997 (31, 1)	119.22617 (31, 1)	118.80004 (31, 1)	117.53071 (31, 1)
23000.0	121.46673 (31, 1)	122.88067 (31, 1)	123.35566 (31, 1)	122.88074 (31, 1)	121.46687 (31, 1)
22000.0	125.66007 (31, 1)	127.24195 (31, 1)	127.77368 (31, 1)	127.24203 (31, 1)	125.66023 (31, 1)
21000.0	130.13525 (31, 1)	131.91348 (31, 1)	132.51163 (31, 1)	131.91356 (31, 1)	130.13542 (31, 1)
20000.0	134.91980 (31, 1)	136.92915 (31, 1)	137.60559 (31, 1)	136.92924 (31, 1)	134.91998 (31, 1)
19000.0	140.04437 (31, 1)	142.32782 (31, 1)	143.09726 (31, 1)	142.32793 (31, 1)	140.04457 (31, 1)
18000.0	145.54323 (31, 1)	148.15442 (31, 1)	149.03522 (31, 1)	148.15453 (31, 1)	145.54346 (31, 1)
17000.0	151.45427 (31, 1)	154.46085 (31, 1)	155.47627 (31, 1)	154.46097 (31, 1)	151.45450 (31, 1)
16000.0	157.81917 (31, 1)	161.30753 (31, 1)	162.48740 (31, 1)	161.30765 (31, 1)	157.81943 (31, 1)
15000.0	164.68298 (31, 1)	168.76488 (31, 1)	170.14792 (31, 1)	168.76503 (31, 1)	164.68327 (31, 1)
14000.0	172.00458 (31, 1)	176.82431 (31, 1)	178.46078 (31, 1)	176.82448 (31, 1)	172.00488 (31, 1)
13000.0	179.29852 (31, 1)	185.03156 (31, 1)	186.98306 (31, 1)	185.03172 (31, 1)	179.29886 (31, 1)
12000.0	186.95456 (31, 1)	193.85036 (31, 1)	196.20509 (31, 1)	193.85056 (31, 1)	186.95493 (31, 1)
11000.0	194.91226 (31, 1)	203.31255 (31, 1)	206.19241 (31, 1)	203.31277 (31, 1)	194.91269 (31, 1)
10000.0	203.04863 (31, 1)	213.43164 (31, 1)	217.00941 (31, 1)	213.43190 (31, 1)	203.04910 (31, 1)
9000.0	213.03947 (25, 1)	224.18404 (31, 1)	228.71162 (31, 1)	224.18431 (31, 1)	213.03972 (25, 1)
8000.0	223.02008 (25, 1)	235.47429 (31, 1)	241.33180 (31, 1)	235.47461 (31, 1)	223.02036 (25, 1)
7000.0	231.95671 (25, 1)	247.06757 (31, 1)	254.85251 (31, 1)	247.06793 (31, 1)	231.95703 (25, 1)
6000.0	238.45390 (25, 1)	259.14520 (31, 1)	269.87451 (31, 1)	259.14563 (31, 1)	238.45427 (25, 1)
5000.0	228.40649 (30, 1)	266.44049 (31, 1)	281.67935 (31, 1)	266.44101 (31, 1)	228.40736 (30, 1)
4000.0	210.45224 (31, 1)	259.41135 (25, 1)	280.98947 (32, 1)	259.41162 (25, 1)	210.45320 (31, 1)
3000.0	200.25038 (26, 1)	260.60391 (31, 1)	297.46573 (31, 1)	260.60464 (31, 1)	200.25090 (26, 1)
2000.0	150.55727 (27, 1)	243.93317 (32, 1)	316.53058 (32, 1)	243.93407 (32, 1)	150.55780 (27, 1)
1000.0	147.45822 (14, 1)	267.76794 (23, 1)	348.84018 (23, 1)	267.76846 (23, 1)	147.45845 (14, 1)

*** PGV SCENARIOS - W/ DOWNWASH & W/ 10M FLAGPOLE ***

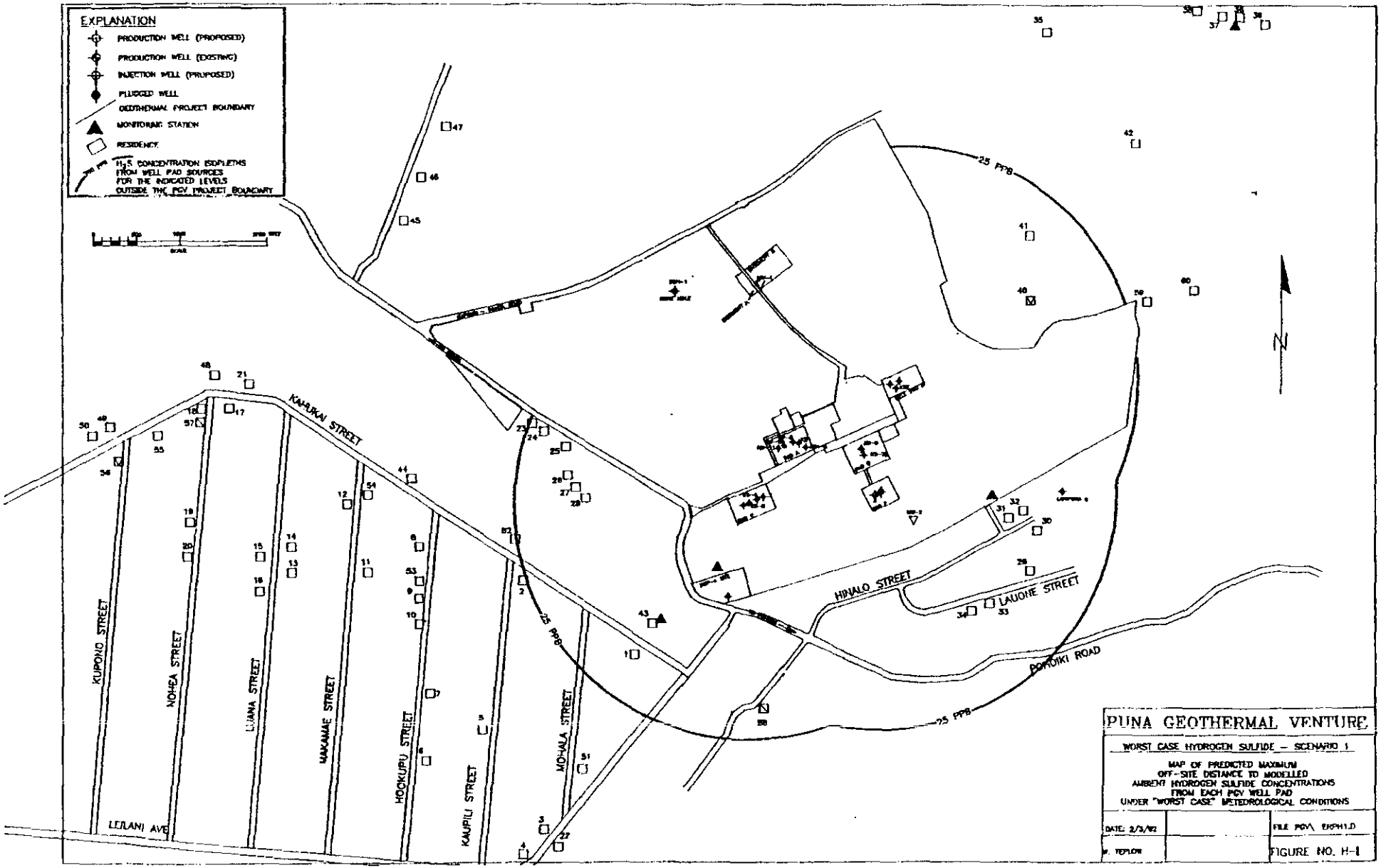
* SECOND HIGHEST 1-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM SOURCES: 1,
* FOR THE DISCRETE RECEPTOR POINTS *

- X -	- Y -	CON.	(DAY,HOUR)	- X -	- Y -	CON.	(DAY,HOUR)
-100.0	50.0	0.00000	(0, 0)	-50.0	50.0	40.27215	(2, 1)
0.0	50.0	23251.51172	(20, 1)	50.0	50.0	40.27218	(2, 1)
100.0	50.0	0.00000	(0, 0)	-100.0	100.0	3.95927	(3, 1)
-50.0	100.0	183.16537	(8, 1)	0.0	100.0	9313.95410	(21, 1)
50.0	100.0	183.16576	(8, 1)	100.0	100.0	3.96161	(3, 1)
-100.0	200.0	45.74429	(2, 1)	-50.0	200.0	348.97095	(3, 1)
0.0	200.0	3098.49390	(23, 1)	50.0	200.0	348.97119	(3, 1)
100.0	200.0	45.75299	(2, 1)	-100.0	300.0	112.18290	(8, 1)
-50.0	300.0	400.45386	(14, 1)	0.0	300.0	1557.30090	(22, 1)
50.0	300.0	400.45471	(14, 1)	100.0	300.0	112.18307	(8, 1)
-100.0	400.0	153.10361	(8, 1)	-50.0	400.0	379.32474	(14, 1)
0.0	400.0	1005.63629	(24, 1)	50.0	400.0	379.32532	(14, 1)
100.0	400.0	153.10384	(8, 1)	-100.0	500.0	168.07005	(3, 1)
-50.0	500.0	326.49860	(14, 1)	0.0	500.0	719.78845	(24, 1)
50.0	500.0	326.49902	(14, 1)	100.0	500.0	168.07016	(3, 1)
-100.0	600.0	149.95229	(8, 1)	-50.0	600.0	288.82932	(15, 1)
0.0	600.0	546.05670	(24, 1)	50.0	600.0	288.82968	(15, 1)
100.0	600.0	149.95244	(8, 1)	-100.0	700.0	152.75896	(8, 1)
-50.0	700.0	275.81732	(24, 1)	0.0	700.0	457.50641	(24, 1)
50.0	700.0	275.81799	(24, 1)	100.0	700.0	152.75909	(8, 1)
-100.0	800.0	149.63899	(14, 1)	-50.0	800.0	282.54050	(22, 1)
0.0	800.0	414.74075	(22, 1)	50.0	800.0	282.54111	(22, 1)
100.0	800.0	149.63928	(14, 1)	-100.0	900.0	151.02678	(14, 1)
-50.0	900.0	276.47705	(22, 1)	0.0	900.0	377.92514	(22, 1)
50.0	900.0	276.47760	(22, 1)	100.0	900.0	151.02704	(14, 1)

RUN ENDED ON 12-09-91 AT 02:47:54

ATTACHMENT 3

MAPS OF ISCST-MODELED HYDROGEN SULFIDE IMPACTS FOR THE WELL-RELATED UNCONTROLLED FLOW EVENT AND POWER PLANT UPSET SCENARIOS
PUNA GEOTHERMAL VENTURE PROJECT

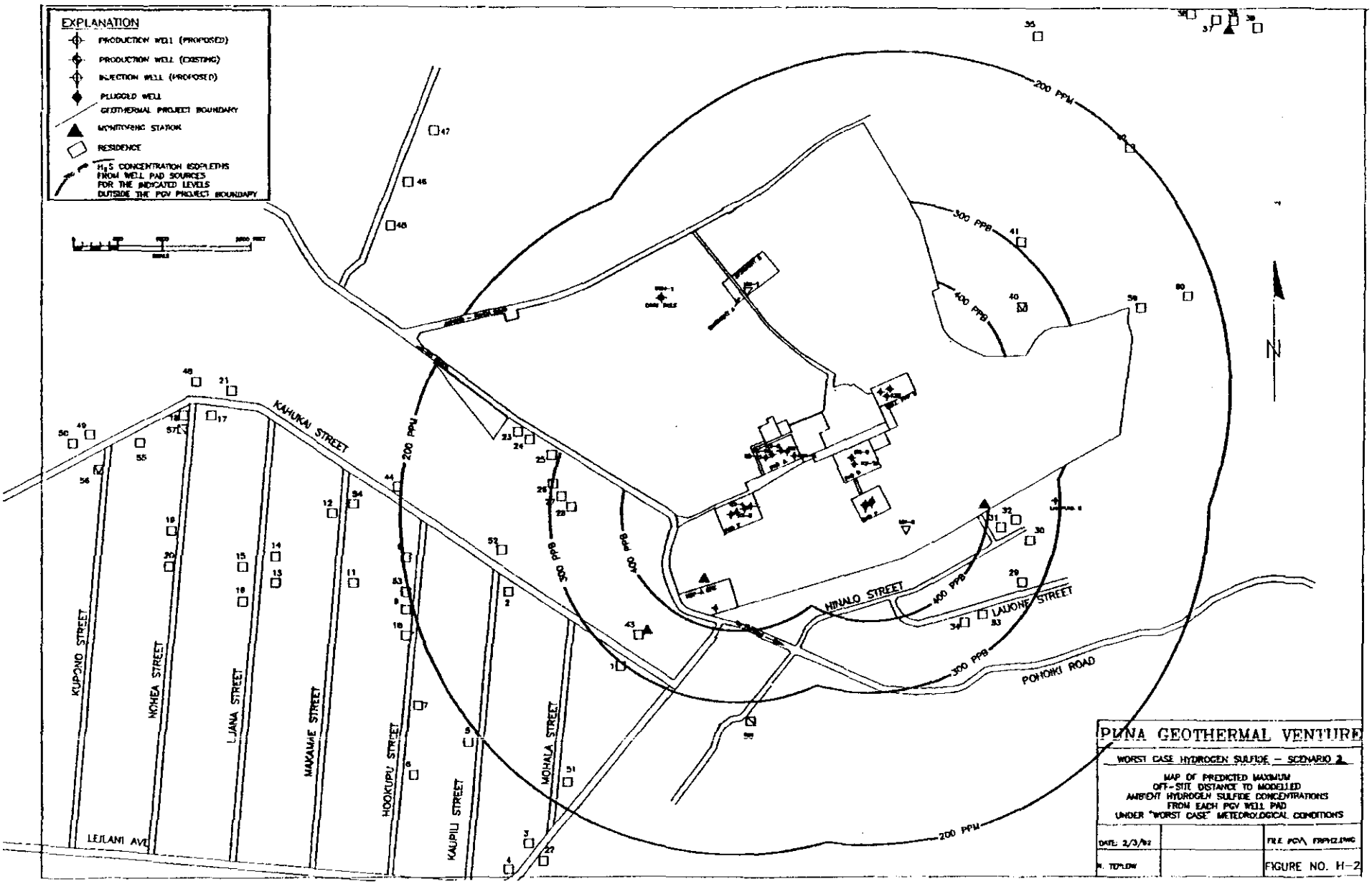


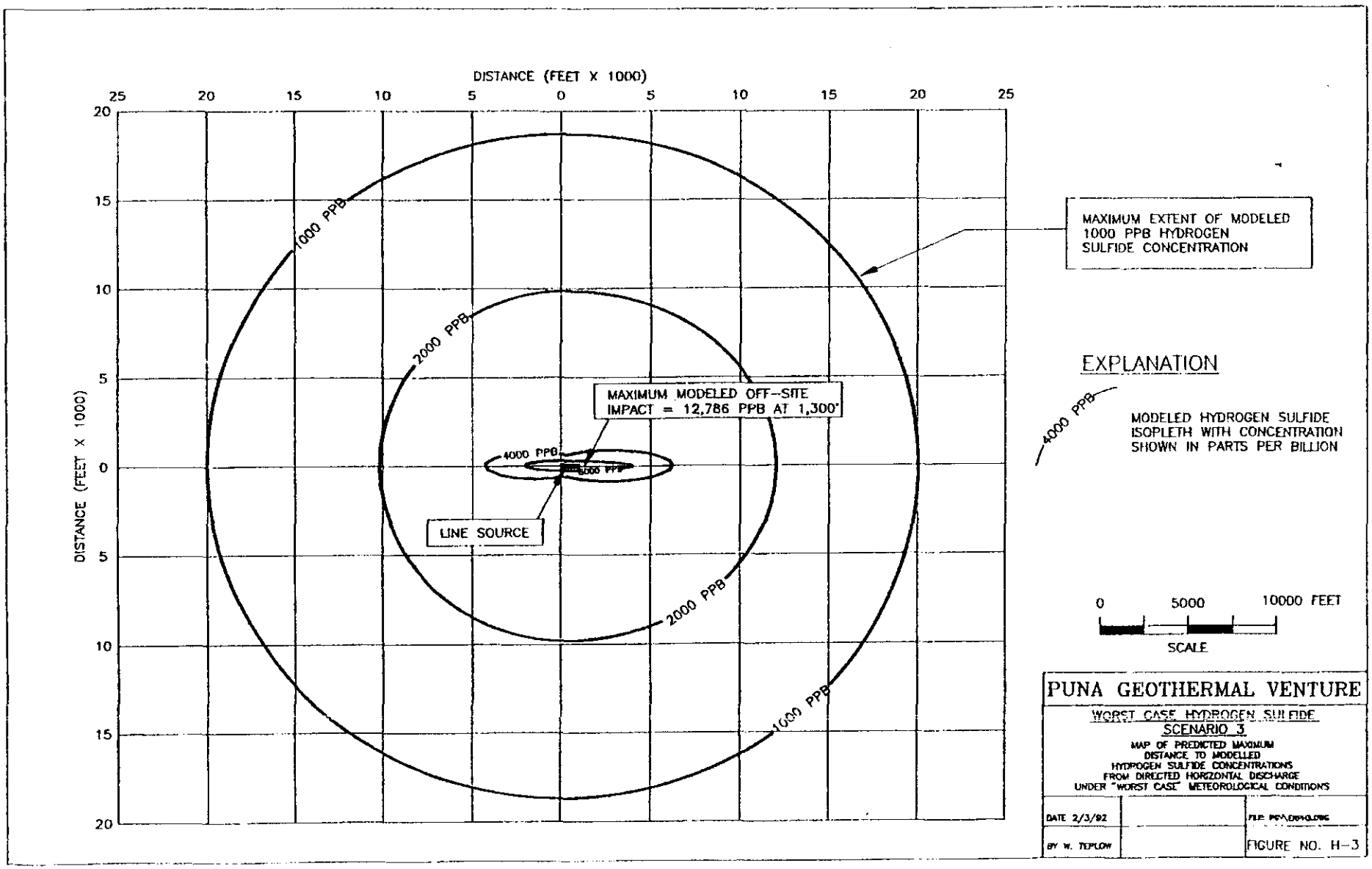
PUNA GEOTHERMAL VENTURE

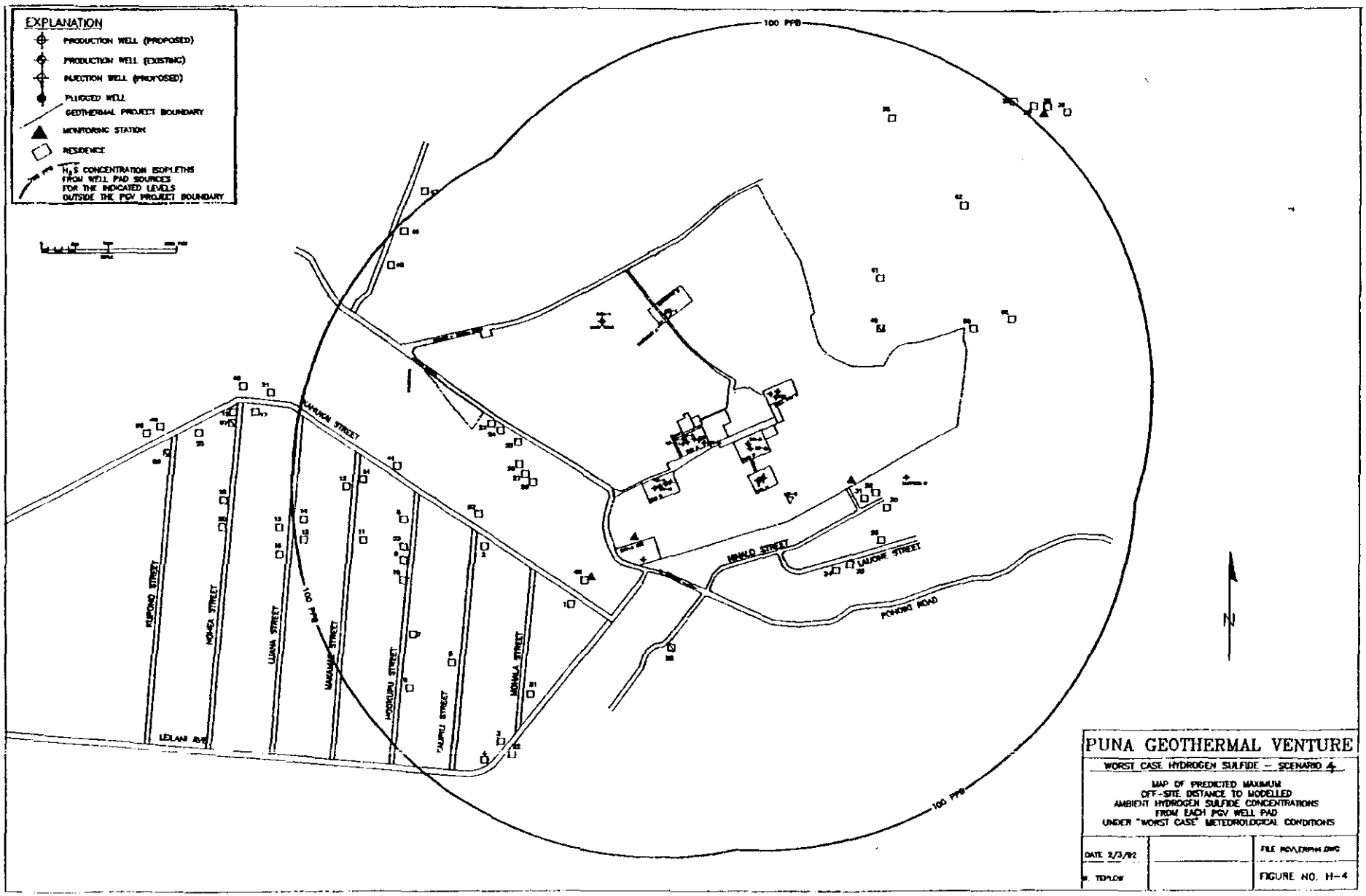
WORST CASE HYDROGEN SULFIDE – SCENARIO 1

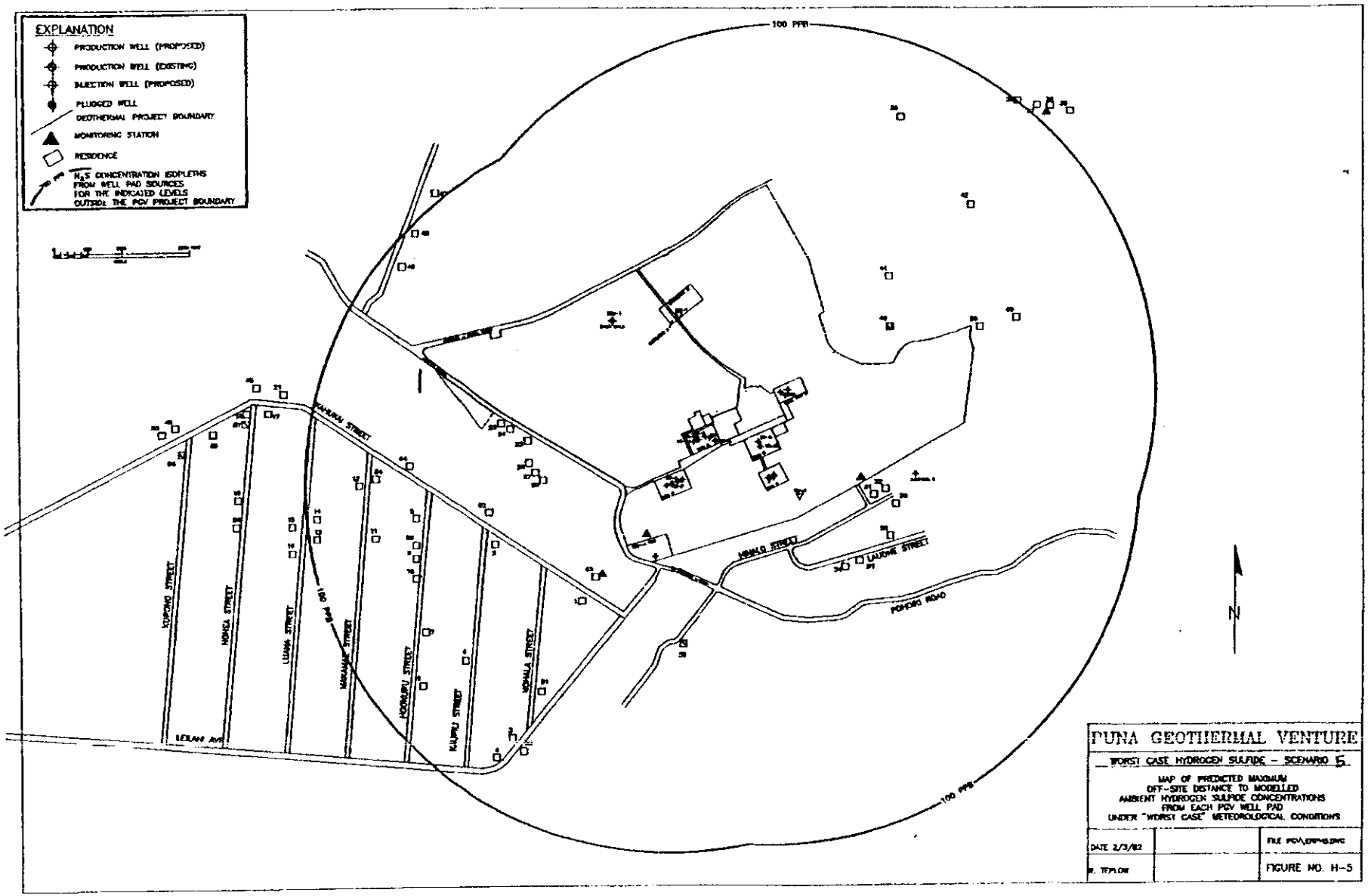
MAP OF PREDICTED MAXIMUM OFF-SITE DISTANCE TO MODELLED AMBIENT HYDROGEN SULFIDE CONCENTRATIONS FROM EACH PGV WELL PAD UNDER "WORST CASE" METEOROLOGICAL CONDITIONS

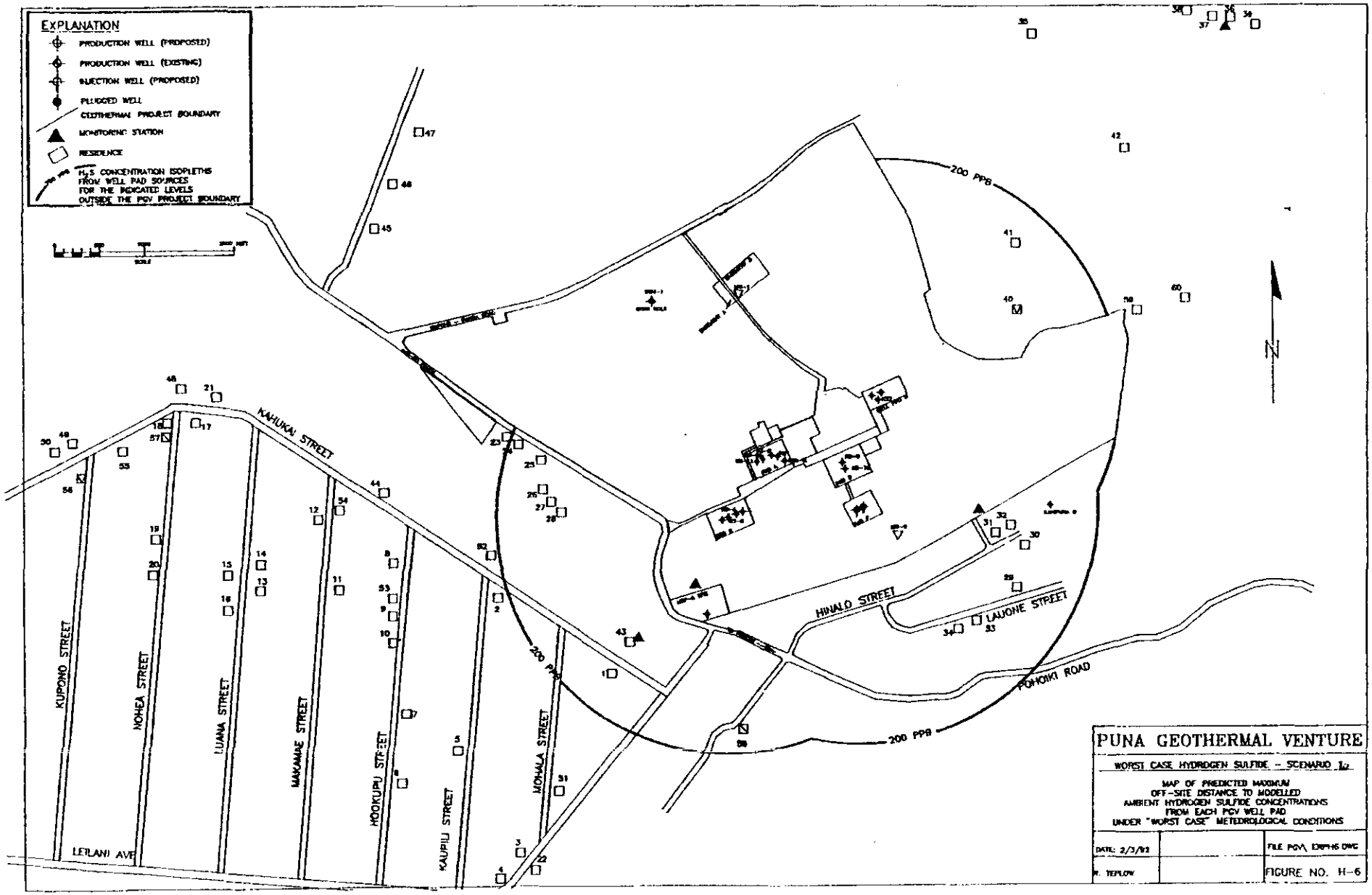
DATE: 2/3/92		FILE PGV\ ESPH1.D
R. TAYLOR		FIGURE NO. H-1


EXPLANATION
PRODUCTION WELL (PROPOSED)
PRODUCTION WELL (EXISTING)
INJECTION WELL (PROPOSED)
PLUGGED WELL
GEOTHERMAL PROJECT BOUNDARY
MONITORING STATION
RESIDENCE
H2S CONCENTRATION ISOPLETHS FROM WELL PAD SOURCES FOR THE INDICATED LEVELS OUTSIDE THE PGV PROJECT BOUNDARY
200 PPM
300 PPB
400 PPB
KAHUKAI STREET
HIVALO STREET
LAUONE STREET
POHOIKI ROAD
KUPONO STREET
NOHEA STREET
LIANA STREET
MAKAMAE STREET
HOOKUPU STREET
KAUPILI STREET
MOHALA STREET
LEILANI AVE
N
PUNA GEOTHERMAL VENTURE
WORST CASE HYDROGEN SULFIDE – SCENARIO 2
MAP OF PREDICTED MAXIMUM OFF-SITE DISTANCE TO MODELLED AMBIENT HYDROGEN SULFIDE CONCENTRATIONS FROM EACH PGV WELL PAD UNDER "WORST CASE" METEOROLOGICAL CONDITIONS
DATE: 2/3/92
FILE PGV\ FIGURES.WKG
FIGURE NO. H-2


DISTANCE (FEET X 1000)
25 20 15 10 5 0 5 10 15 20 25
DISTANCE (FEET X 1000)
20 15 10 5 0 5 10 15 20
1000 PPB
2000 PPB
4000 PPB
MAXIMUM MODELED OFF-SITE IMPACT = 12,786 PPB AT 1,300'
LINE SOURCE
MAXIMUM EXTENT OF MODELED 1000 PPB HYDROGEN SULFIDE CONCENTRATION
EXPLANATION
4000 PPB
MODELED HYDROGEN SULFIDE ISOPLETH WITH CONCENTRATION SHOWN IN PARTS PER BILLION
0 5000 10000 FEET
SCALE
PUNA GEOTHERMAL VENTURE
WORST CASE HYDROGEN SULFIDE SCENARIO 3
MAP OF PREDICTED MAXIMUM DISTANCE TO MODELLED HYDROGEN SULFIDE CONCENTRATIONS FROM DIRECTED HORIZONTAL DISCHARGE UNDER "WORST CASE" METEOROLOGICAL CONDITIONS
DATE 2/3/92
BY W. TEPLOW
FIGURE NO. H-3


EXPLANATION
PRODUCTION WELL (PROPOSED)
PRODUCTION WELL (EXISTING)
INJECTION WELL (PROPOSED)
PLUGGED WELL
GEOTHERMAL PROJECT BOUNDARY
MONITORING STATION
RESIDENCE
H_2S CONCENTRATION ISOPLETHS FROM WELL PAD SOURCES FOR THE INDICATED LEVELS OUTSIDE THE PGV PROJECT BOUNDARY
100 PPB
KAPUNA STREET
KUPONO STREET
KOHOLA STREET
LUANA STREET
MAKAAHU STREET
HOOKUPU STREET
KAUPILI STREET
MOHALA STREET
LEILANI AVE
HINALO STREET
LAUONA STREET
POHOKU ROAD
N
PUNA GEOTHERMAL VENTURE
WORST CASE HYDROGEN SULFIDE – SCENARIO 4
MAP OF PREDICTED MAXIMUM OFF-SITE DISTANCE TO MODELLED AMBIENT HYDROGEN SULFIDE CONCENTRATIONS FROM EACH PGV WELL PAD UNDER "WORST CASE" METEOROLOGICAL CONDITIONS
DATE 2/3/92
FILE PGV\EXPH4.DWG
TOPLOW
FIGURE NO. H-4


EXPLANATION
PRODUCTION WELL (PROPOSED)
PRODUCTION WELL (EXISTING)
INJECTION WELL (PROPOSED)
PLUGGED WELL
GEOTHERMAL PROJECT BOUNDARY
MONITORING STATION
RESIDENCE
H_2S CONCENTRATION ISOPLETHS FROM WELL PAD SOURCES FOR THE INDICATED LEVELS OUTSIDE THE PGV PROJECT BOUNDARY
100 PPB
KAHERU STREET
KOPONO STREET
HOHOLA STREET
LUJAHA STREET
MAKAMAE STREET
HOONUPU STREET
KUAPUU STREET
KOHALA STREET
HINALO STREET
LAUONE STREET
PONOKO ROAD
LEILANI AVE
N
FUNA GEOTHERMAL VENTURE
WORST CASE HYDROGEN SULFIDE - SCENARIO 5
MAP OF PREDICTED MAXIMUM OFF-SITE DISTANCE TO MODELLED AMBIENT HYDROGEN SULFIDE CONCENTRATIONS FROM EACH PGV WELL PAD UNDER "WORST CASE" METEOROLOGICAL CONDITIONS
DATE 2/3/82
R. TEPLOW
FILE PGV\EXPHS.DWG
FIGURE NO. H-5

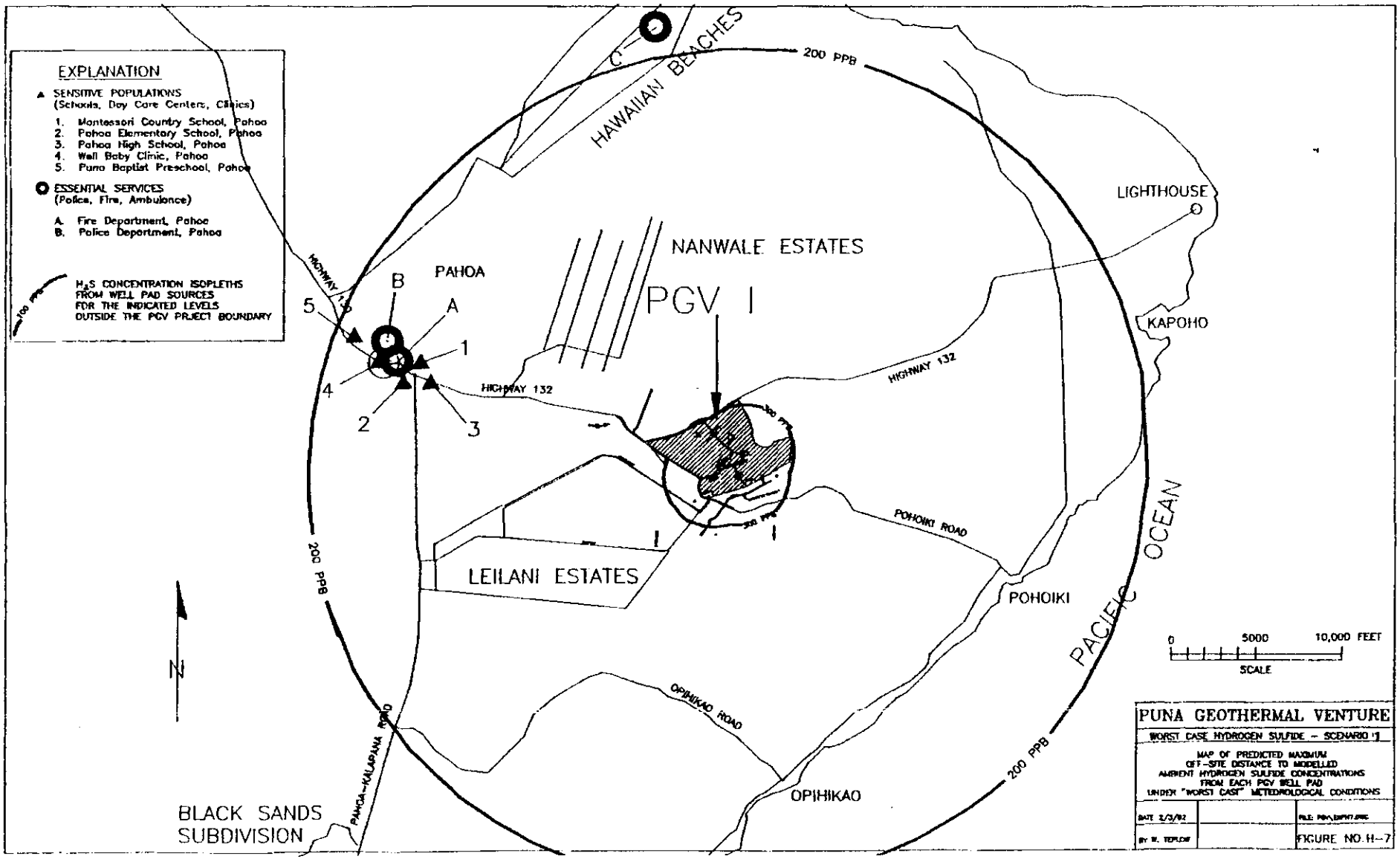


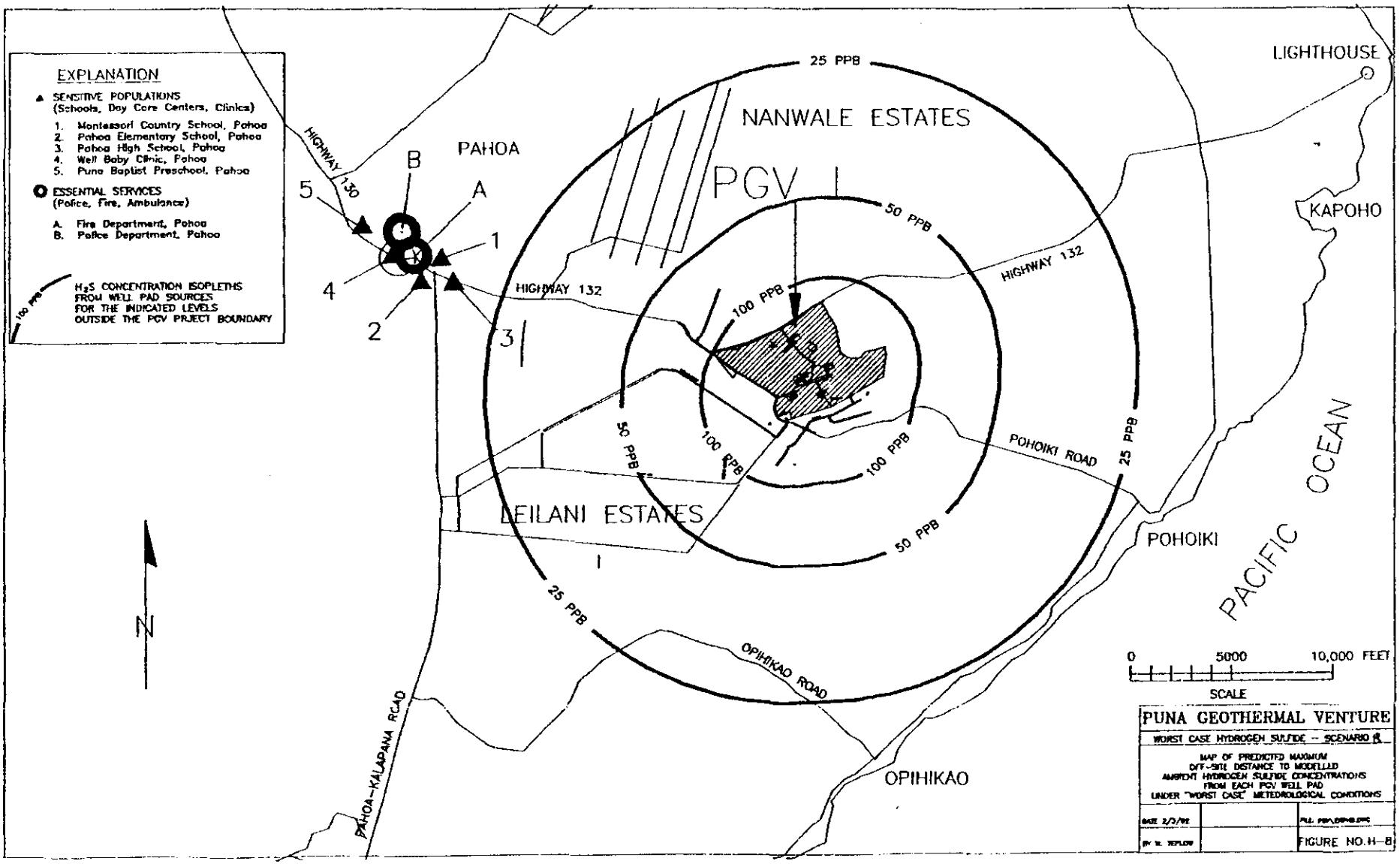
PUNA GEOTHERMAL VENTURE

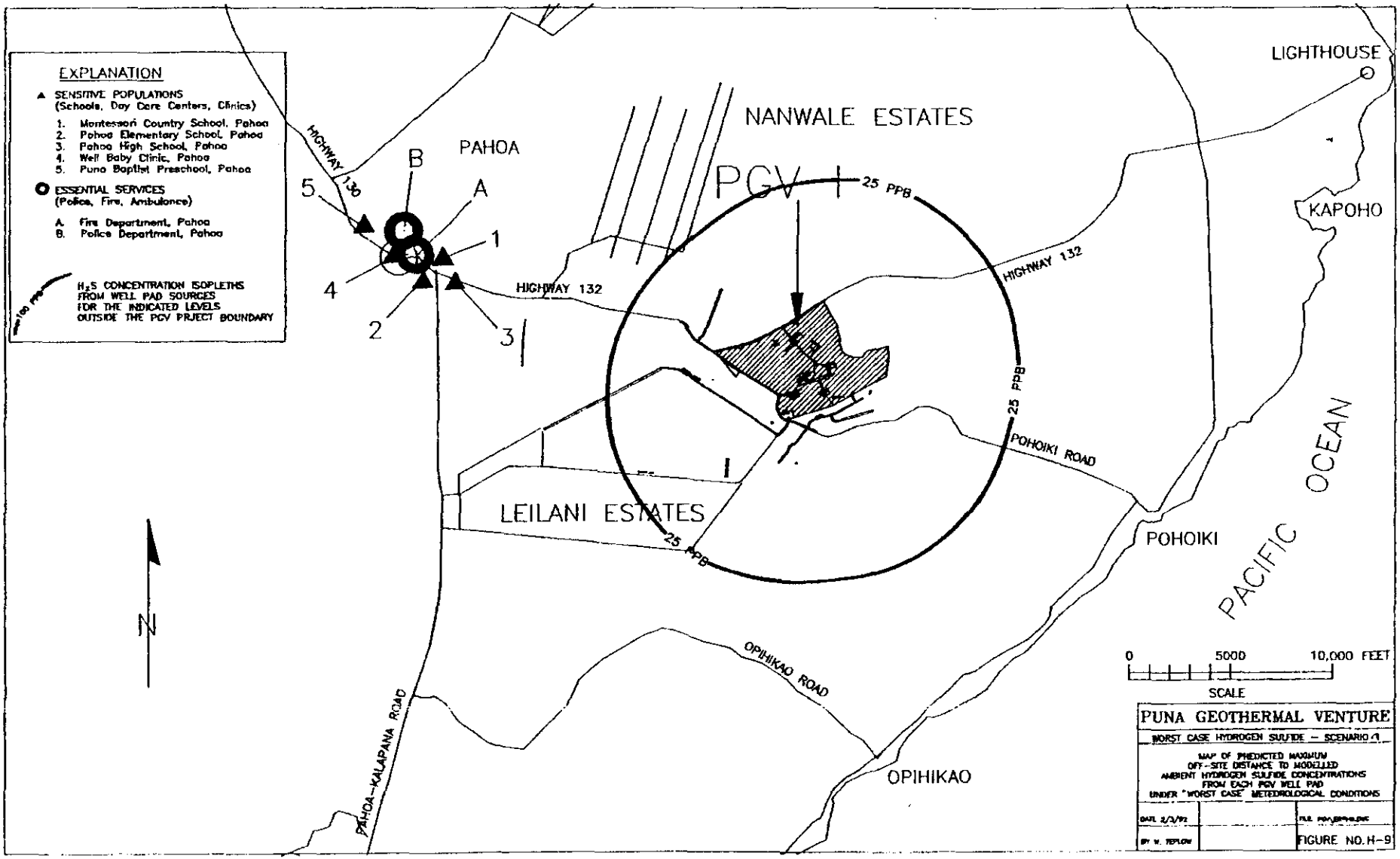
WORST CASE HYDROGEN SULFIDE - SCENARIO 1a

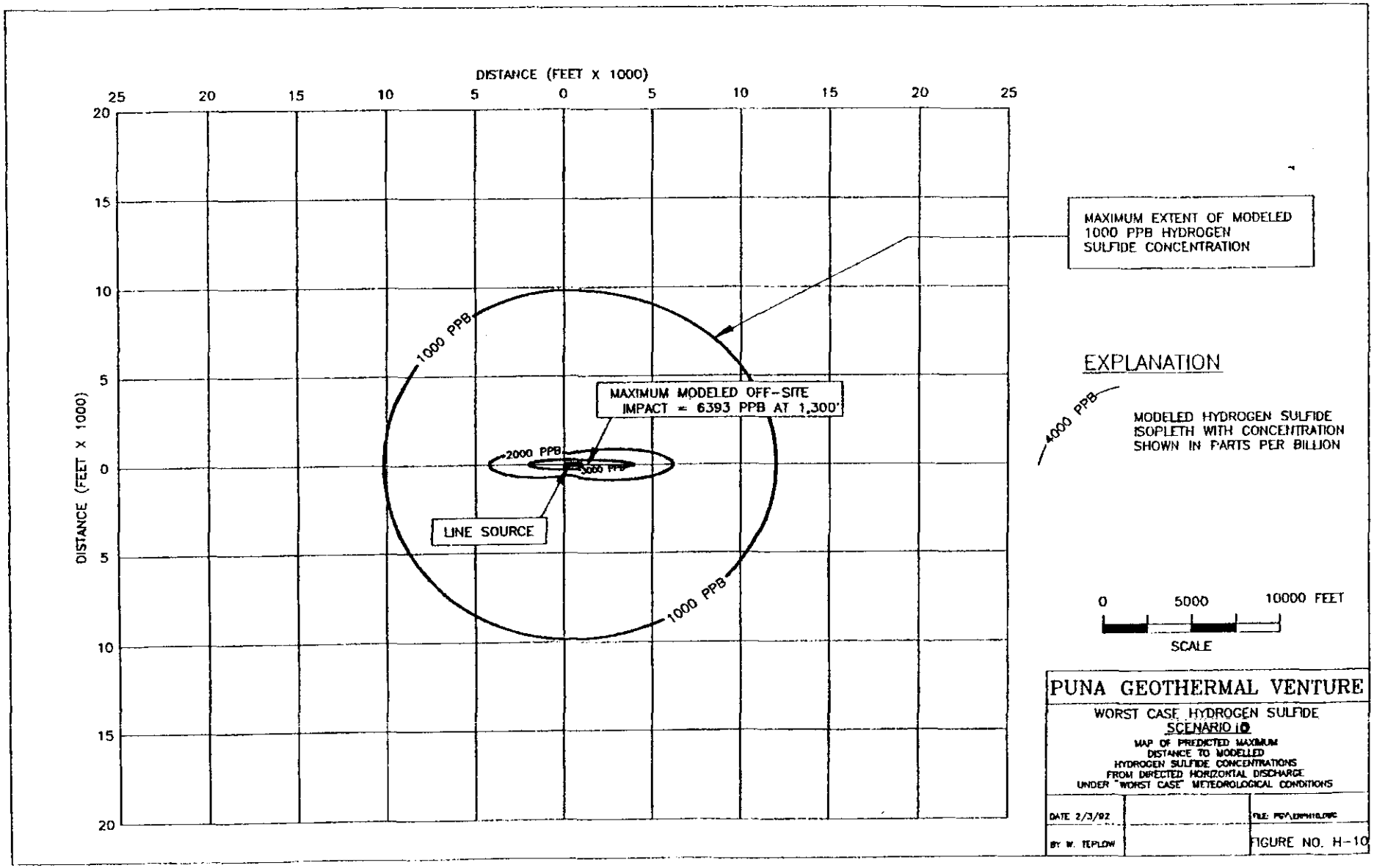
MAP OF PREDICTED MAXIMUM OFF-SITE DISTANCE TO MODELLED AMBIENT HYDROGEN SULFIDE CONCENTRATIONS FROM EACH PGV WELL PAD UNDER "WORST CASE" METEOROLOGICAL CONDITIONS

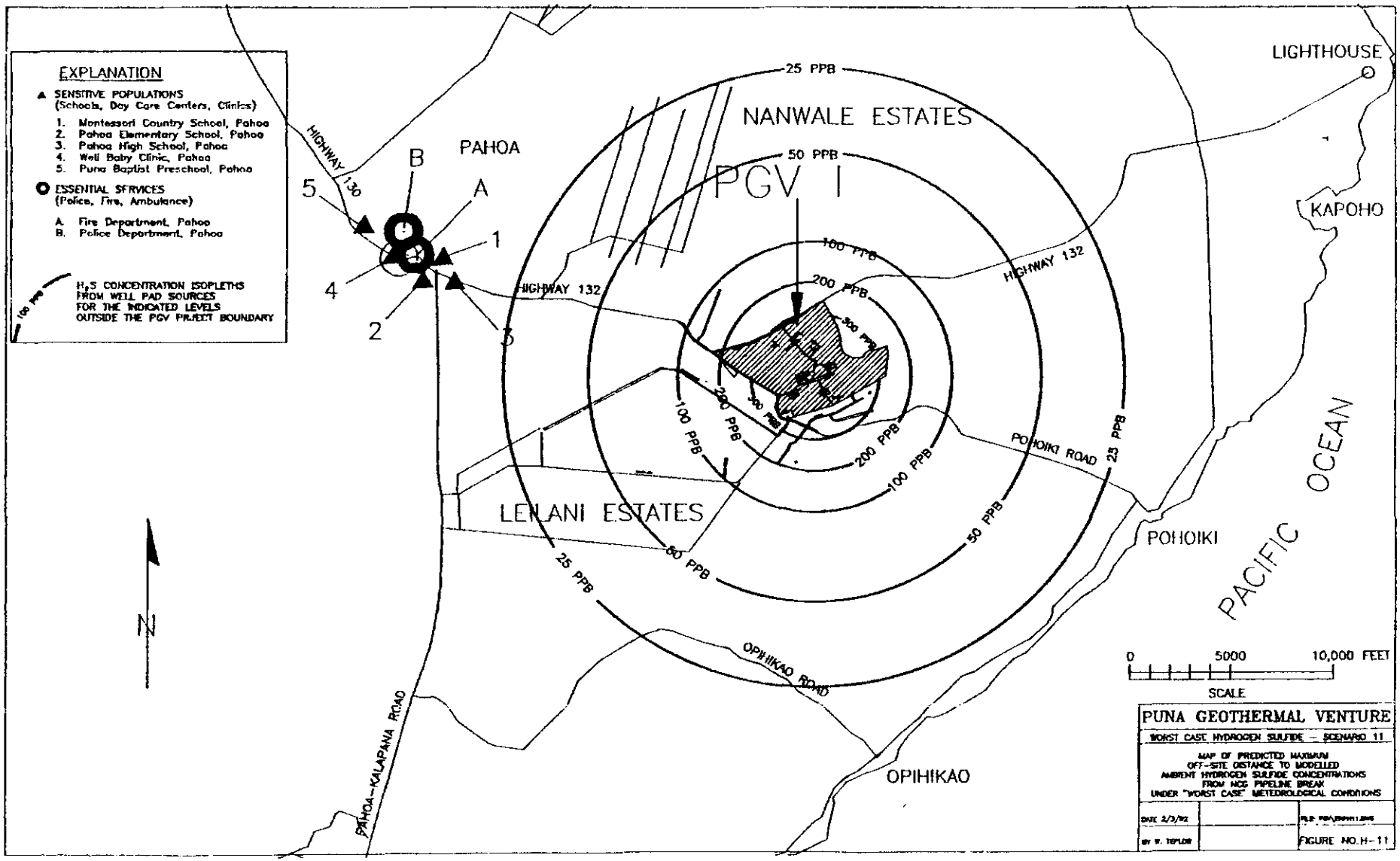
DATE: 2/3/92		FILE: PGV_ENTHS.DWG
R. TEFLOW		FIGURE NO. H-6

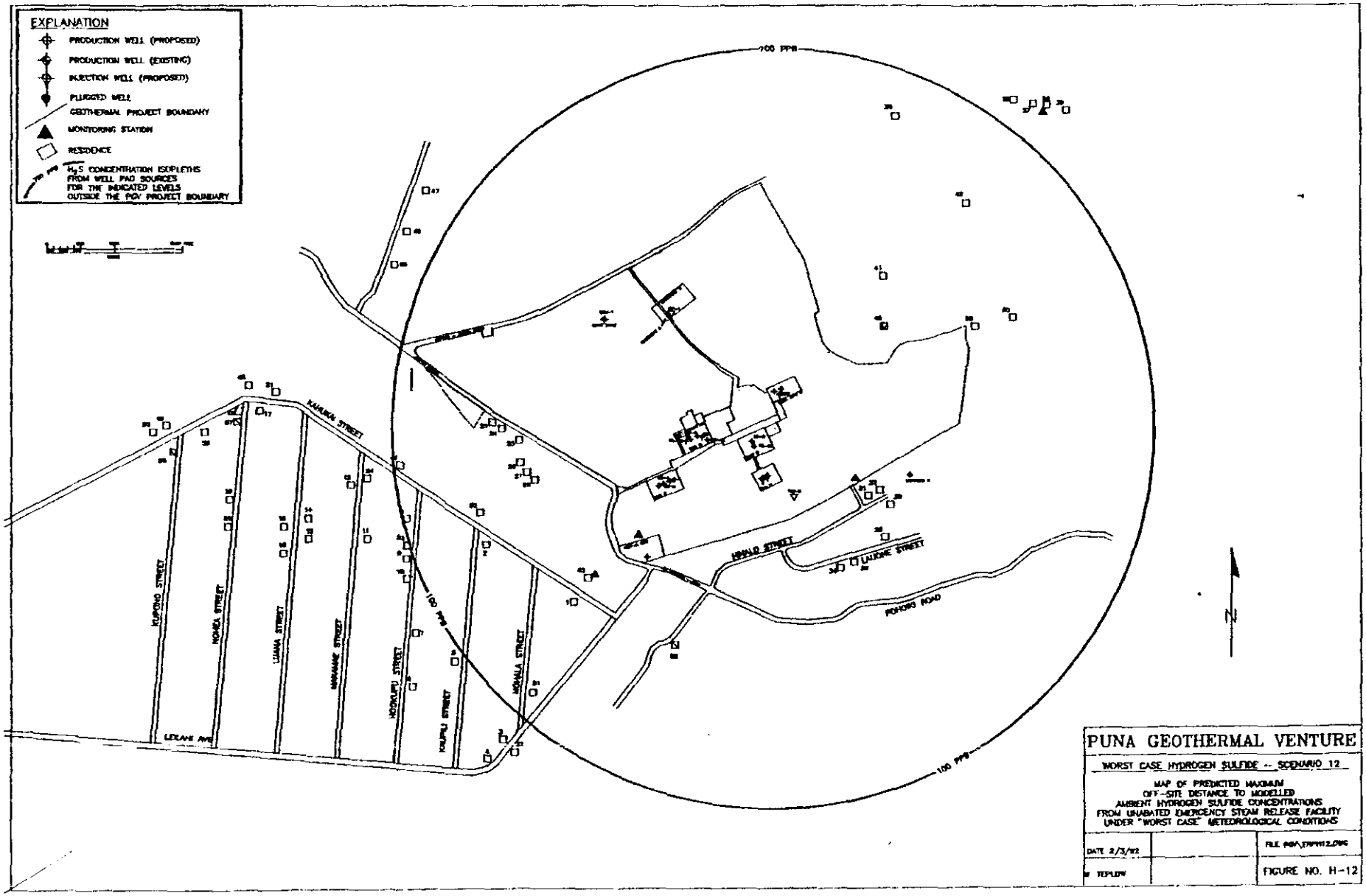

EXPLANATION
▲ SENSITIVE POPULATIONS
(Schools, Day Care Centers, Clinics)
1. Montessori Country School, Pahoa
2. Pahoa Elementary School, Pahoa
3. Pahoa High School, Pahoa
4. Well Baby Clinic, Pahoa
5. Puna Baptist Preschool, Pahoa
ESSENTIAL SERVICES
(Police, Fire, Ambulance)
A. Fire Department, Pahoa
B. Police Department, Pahoa
H2S CONCENTRATION ISOPLETHS FROM WELL PAD SOURCES FOR THE INDICATED LEVELS OUTSIDE THE PGV PROJECT BOUNDARY
100 PPB
200 PPB
300 PPB
HAWAIIAN BEACHES
LIGHTHOUSE
NANWALE ESTATES
PGV I
PAHOA
KAPOHO
HIGHWAY 132
HIGHWAY 11
LEILANI ESTATES
POHOIKI ROAD
POHOIKI
PACIFIC OCEAN
OPIHIKAO ROAD
OPIHIKAO
PAHOA-KALAPANA ROAD
BLACK SANDS SUBDIVISION
A
B
C
1
2
3
4
5
N
0
5000
10,000 FEET
SCALE
PUNA GEOTHERMAL VENTURE
WORST CASE HYDROGEN SULFIDE - SCENARIO 1
MAP OF PREDICTED MAXIMUM OFF-SITE DISTANCE TO MODELLED AMBIENT HYDROGEN SULFIDE CONCENTRATIONS FROM EACH PGV WELL PAD UNDER "WORST CASE" METEOROLOGICAL CONDITIONS
DATE 2/3/92
BY W. TEPLOW
FIGURE NO. H-7

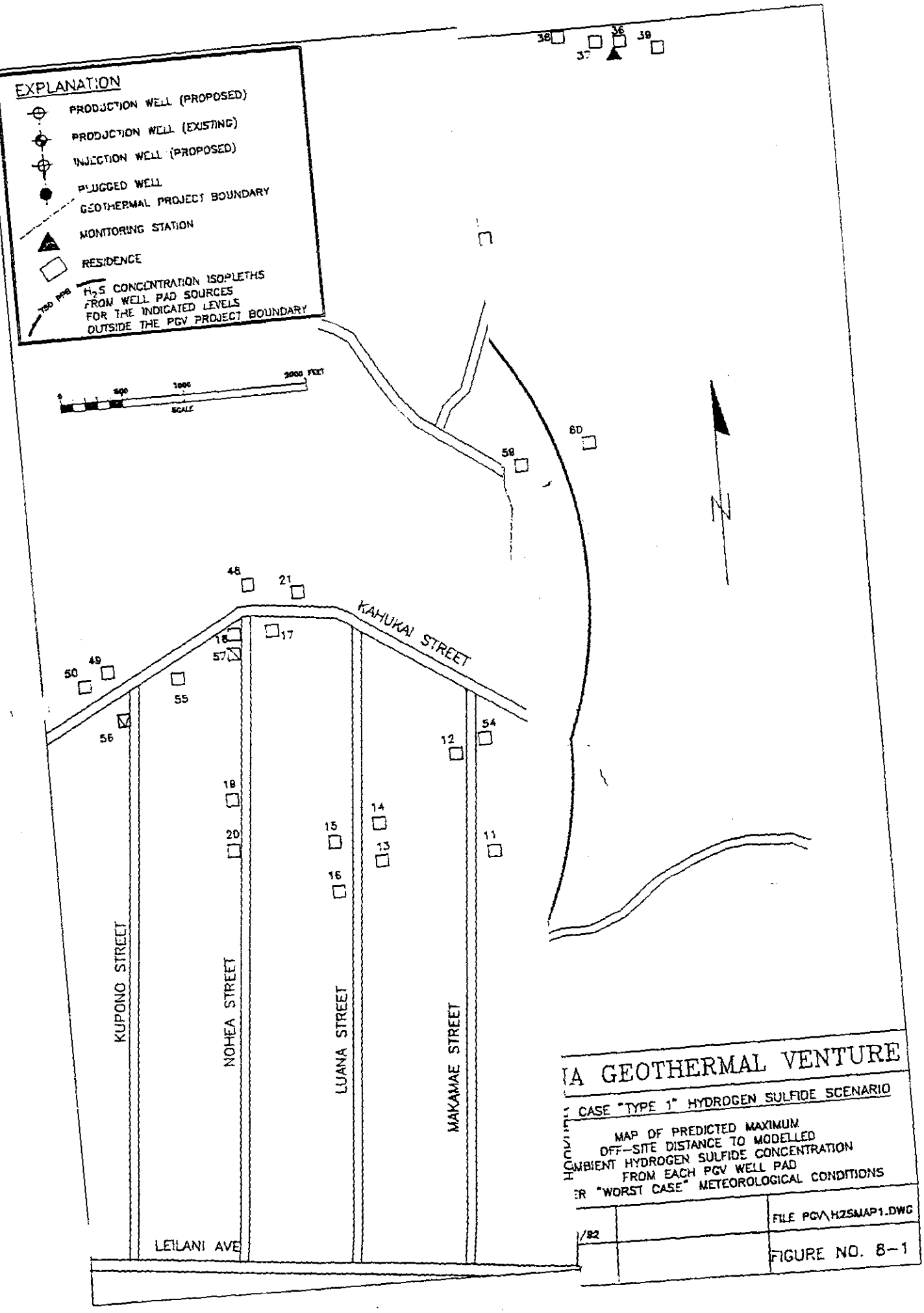

EXPLANATION
SENSITIVE POPULATIONS
(Schools, Day Care Centers, Clinics)
1. Montessori Country School, Pahoa
2. Pahoa Elementary School, Pahoa
3. Pahoa High School, Pahoa
4. Well Baby Clinic, Pahoa
5. Puna Baptist Preschool, Pahoa
ESSENTIAL SERVICES
(Police, Fire, Ambulance)
A. Fire Department, Pahoa
B. Police Department, Pahoa
H_2S CONCENTRATION ISOPLETHS FROM WELL PAD SOURCES FOR THE INDICATED LEVELS OUTSIDE THE PGV PROJECT BOUNDARY
25 PPB
50 PPB
100 PPB
PAHOA
NANWALE ESTATES
PGV I
LEILANI ESTATES
LIGHTHOUSE
KAPOHO
POHOIKI
OPIHIKAO
PACIFIC OCEAN
HIGHWAY 130
HIGHWAY 132
POHOIKI ROAD
OPIHIKAO ROAD
PAHOA-KALAPANA ROAD
N
0 5000 10,000 FEET
SCALE
PUNA GEOTHERMAL VENTURE
WORST CASE HYDROGEN SULFIDE -- SCENARIO B
MAP OF PREDICTED MAXIMUM OFF-SITE DISTANCE TO MODELLED AMBIENT HYDROGEN SULFIDE CONCENTRATIONS FROM EACH PGV WELL PAD UNDER "WORST CASE" METEOROLOGICAL CONDITIONS
DATE 2/3/92
BY M. REFLOW
FIGURE NO. H-8


EXPLANATION
▲ SENSITIVE POPULATIONS
(Schools, Day Care Centers, Clinics)
1. Montessori Country School, Pahoa
2. Pahoa Elementary School, Pahoa
3. Pahoa High School, Pahoa
4. Well Baby Clinic, Pahoa
5. Puna Baptist Preschool, Pahoa
ESSENTIAL SERVICES
(Police, Fire, Ambulance)
A. Fire Department, Pahoa
B. Police Department, Pahoa
100 PPB
H2S CONCENTRATION ISOPLETHS FROM WELL PAD SOURCES FOR THE INDICATED LEVELS OUTSIDE THE PGV PROJECT BOUNDARY
HIGHWAY 130
PAHOA
NANWALE ESTATES
PGV
25 PPB
LIGHTHOUSE
KAPOHO
HIGHWAY 132
POHOIKI ROAD
LEILANI ESTATES
POHOIKI
PACIFIC OCEAN
OPIHIKAO ROAD
PAHOA-KALAPANA ROAD
OPIHIKAO
N
0 5000 10,000 FEET
SCALE
PUNA GEOTHERMAL VENTURE
WORST CASE HYDROGEN SULFIDE - SCENARIO 1
MAP OF PREDICTED MAXIMUM OFF-SITE DISTANCE TO MODELLED AMBIENT HYDROGEN SULFIDE CONCENTRATIONS FROM EACH PGV WELL PAD UNDER "WORST CASE" METEOROLOGICAL CONDITIONS
DATE 2/3/92
BY V. TEPLOW
FIGURE NO. H-9


DISTANCE (FEET X 1000)
25 20 15 10 5 0 5 10 15 20 25
DISTANCE (FEET X 1000)
20 15 10 5 0 5 10 15 20
MAXIMUM EXTENT OF MODELED 1000 PPB HYDROGEN SULFIDE CONCENTRATION
1000 PPB
MAXIMUM MODELED OFF-SITE IMPACT = 6393 PPB AT 1,300'
2000 PPB
3000 PPB
LINE SOURCE
1000 PPB
EXPLANATION
4000 PPB
MODELED HYDROGEN SULFIDE ISOPLETH WITH CONCENTRATION SHOWN IN PARTS PER BILLION
0 5000 10000 FEET
SCALE
PUNA GEOTHERMAL VENTURE
WORST CASE HYDROGEN SULFIDE
SCENARIO I
MAP OF PREDICTED MAXIMUM DISTANCE TO MODELLED HYDROGEN SULFIDE CONCENTRATIONS FROM DIRECTED HORIZONTAL DISCHARGE UNDER "WORST CASE" METEOROLOGICAL CONDITIONS
DATE 2/3/92
BY W. TEPLOW
FIGURE NO. H-10


EXPLANATION
▲ SENSITIVE POPULATIONS (Schools, Day Care Centers, Clinics)
1. Montessori Country School, Pahoa
2. Pahoa Elementary School, Pahoa
3. Pahoa High School, Pahoa
4. Well Baby Clinic, Pahoa
5. Puna Baptist Preschool, Pahoa
O ESSENTIAL SERVICES (Police, Fire, Ambulance)
A. Fire Department, Pahoa
B. Police Department, Pahoa
100 PPB
H2S CONCENTRATION ISOPLETHS FROM WELL PAD SOURCES FOR THE INDICATED LEVELS OUTSIDE THE PGV PROJECT BOUNDARY
PAHOA
NANWALE ESTATES
PGV I
LEILANI ESTATES
POHOIKI
OPIHIKAO
KAPOHO
LIGHTHOUSE
HIGHWAY 130
HIGHWAY 132
POHOIKI ROAD
OPIHIKAO ROAD
PAHOA-KALAPANA ROAD
PACIFIC OCEAN
25 PPB
50 PPB
100 PPB
200 PPB
300 PPB
60 PPB
N
0 5000 10,000 FEET
SCALE
PUNA GEOTHERMAL VENTURE
WORST CASE HYDROGEN SULFIDE - SCENARIO 11
MAP OF PREDICTED MAXIMUM OFF-SITE DISTANCE TO MODELLED AMBIENT HYDROGEN SULFIDE CONCENTRATIONS FROM NCG PIPELINE BREAK UNDER "WORST CASE" METEOROLOGICAL CONDITIONS
DATE 2/3/92
BY W. TAYLOR
FIGURE NO. H-11


EXPLANATION
PRODUCTION WELL (PROPOSED)
PRODUCTION WELL (EXISTING)
INJECTION WELL (PROPOSED)
PLUGGED WELL
GEOTHERMAL PROJECT BOUNDARY
MONITORING STATION
RESIDENCE
H_2S CONCENTRATION ISOPLETHS FROM WELL PAD SOURCES FOR THE INDICATED LEVELS OUTSIDE THE PGV PROJECT BOUNDARY
100 PPB
KUAUWA STREET
KUPONO STREET
NOHEA STREET
LUANA STREET
MAKAHAE STREET
HOOKUPU STREET
KOUPU STREET
MOHALA STREET
LEILANI AVE
KAPOHO ROAD
LAUKAHI STREET
N
PUNA GEOTHERMAL VENTURE
WORST CASE HYDROGEN SULFIDE -- SCENARIO 12
MAP OF PREDICTED MAXIMUM OFF-SITE DISTANCE TO MODELLED AMBIENT HYDROGEN SULFIDE CONCENTRATIONS FROM UNABATED EMERGENCY STEAM RELEASE FACILITY UNDER "WORST CASE" METEOROLOGICAL CONDITIONS
DATE 2/3/92
FIGURE NO. H-12



IA GEOTHERMAL VENTURE

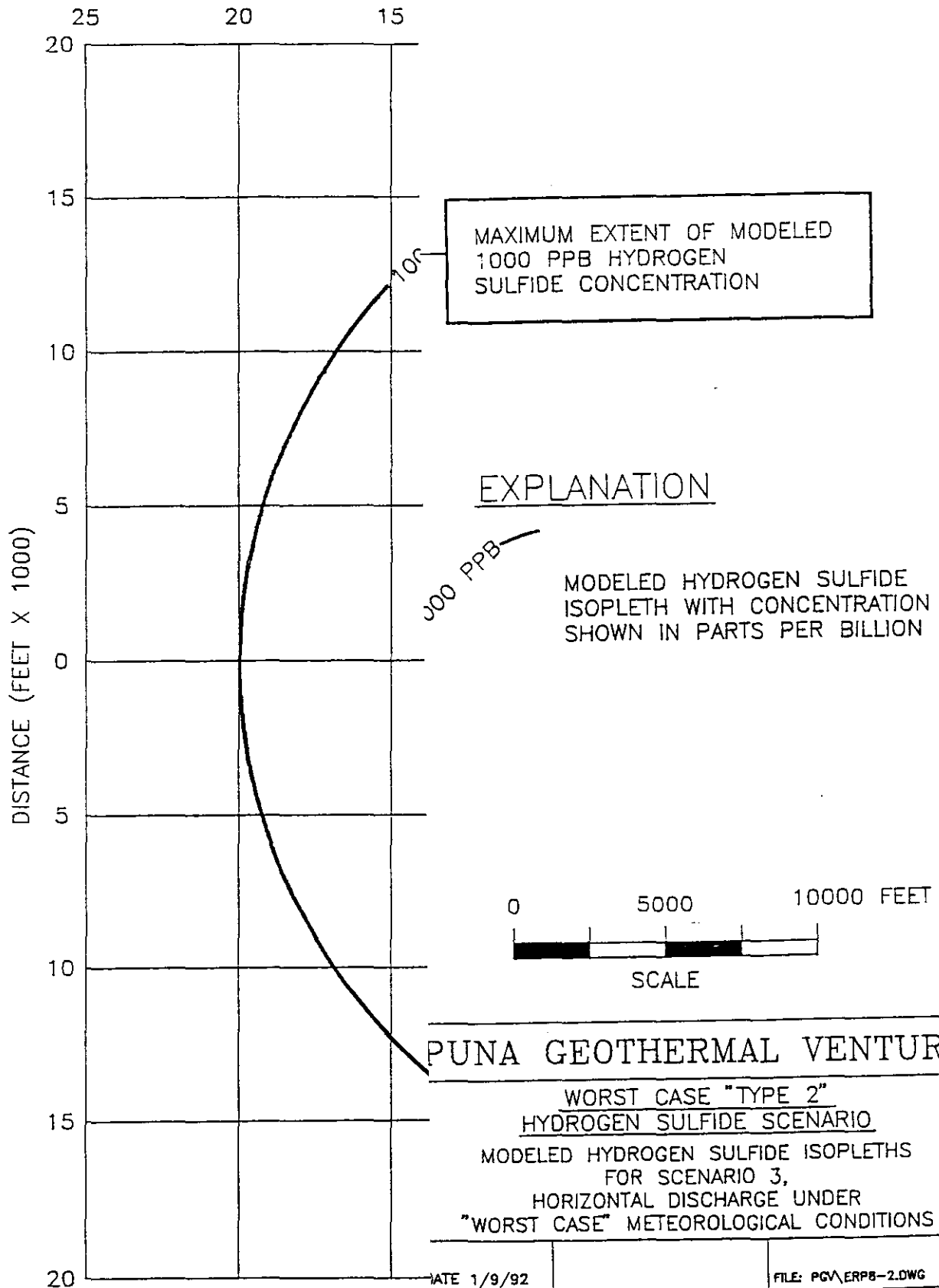
CASE "TYPE 1" HYDROGEN SULFIDE SCENARIO

MAP OF PREDICTED MAXIMUM OFF-SITE DISTANCE TO MODELLED AMBIENT HYDROGEN SULFIDE CONCENTRATION FROM EACH PGV WELL PAD ER "WORST CASE" METEOROLOGICAL CONDITIONS

FILE PGV\H2SMAP1.DWG

/82

FIGURE NO. 8-1

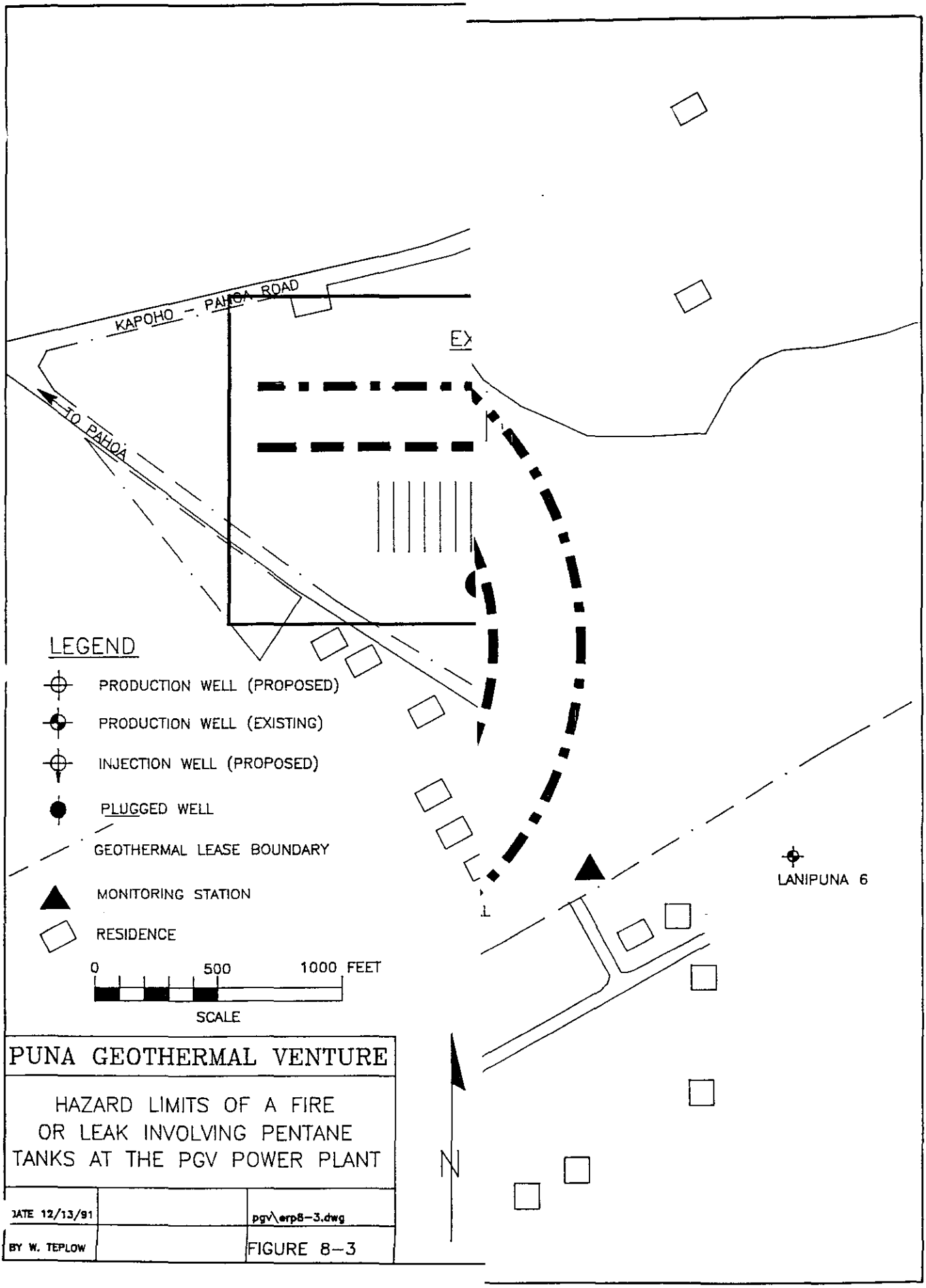


PUNA GEOTHERMAL VENTURE

WORST CASE "TYPE 2"
HYDROGEN SULFIDE SCENARIO

MODELED HYDROGEN SULFIDE ISOPLETHS
FOR SCENARIO 3,
HORIZONTAL DISCHARGE UNDER
"WORST CASE" METEOROLOGICAL CONDITIONS

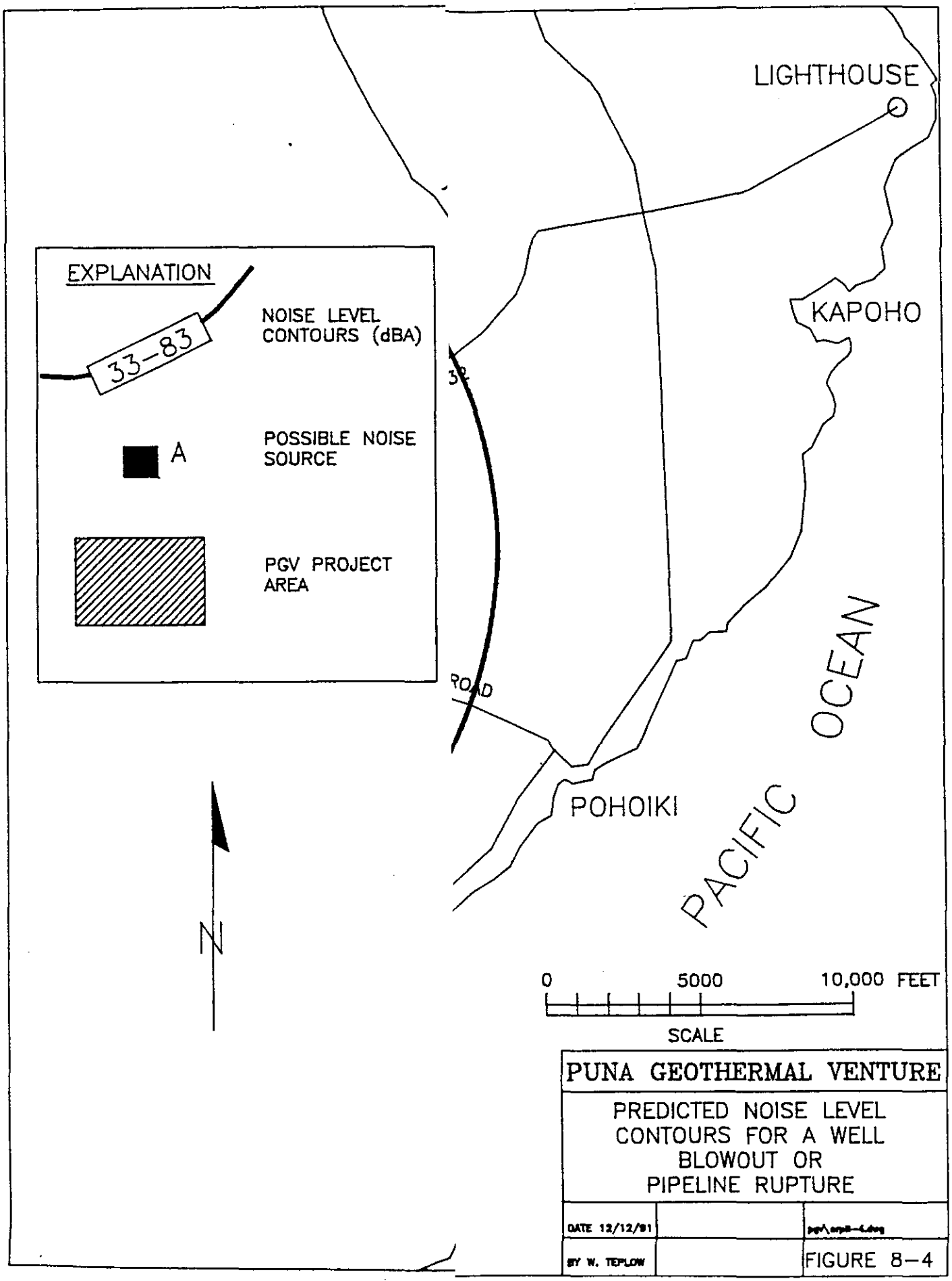
DATE 1/9/92		FILE: PGV\ERP8-2.DWG
BY W. TEPLOW		FIGURE NO. 8-2



PUNA GEOTHERMAL VENTURE

HAZARD LIMITS OF A FIRE OR LEAK INVOLVING PENTANE TANKS AT THE PGV POWER PLANT

DATE 12/13/91		pgv\erp8-3.dwg
BY W. TEPLOW		FIGURE 8-3



PUNA GEOTHERMAL VENTURE		
PREDICTED NOISE LEVEL CONTOURS FOR A WELL BLOWOUT OR PIPELINE RUPTURE		
DATE 12/12/91		pgv\crp8-4.dwg
BY W. TEPLOW		FIGURE 8-4

EXHIBIT "B"

CONSULTANT agrees to secure and maintain during all times that it is engaged in performing its duties and obligations pursuant to this contract the following insurance:

1. Professional Liability Insurance covering any negligence, errors, mistakes, or omissions with limits not less than the following:

$ 2,000,000.00	yearly aggregate
$ 1,000,000.00	limit per claim

2. Comprehensive General Liability Insurance for bodily injury and property damage liability covering all of the operations of CONSULTANT, with limits not less than the following:

$ 2,000,000.00	yearly general aggregate
$ 1,000,000.00	each occurrence

3. Automobile Liability Insurance with limits not less than the following:

$1,000,000.00	bodily injury per person
$1,000,000.00	bodily injury per accident
$ 250,000.00	property damage per accident

4. Worker's Compensation at statutory limits and Employer's Liability Insurance with limits not less than the following:

$ 500,000.00	bodily injury limit per accident
$ 500,000.00	bodily injury from disease limit per employee
$ 500,000.00	bodily injury from disease policy limit

EXPLANATION

- PRODUCTION WELL (PROPOSED)
- PRODUCTION WELL (EXISTING)
- INJECTION WELL (PROPOSED)
- PLUGGED WELL
- GEOTHERMAL PROJECT BOUNDARY
- MONITORING STATION
- RESIDENCE
- 750 PPB — H_2S CONCENTRATION ISOPLETHS FROM WELL PAD SOURCES FOR THE INDICATED LEVELS OUTSIDE THE PGV PROJECT BOUNDARY

0 600 1800 3000 FEET
SCALE

250 PPB
500 PPB
750 PPB

KAHUKAI STREET
KUPONO STREET
NOHEA STREET
LUANA STREET
MAKAMAE STREET
HOOKUPU STREET
KAUPILI STREET
MOHALA STREET
HINALO STREET
LAUONE STREET
POHOIKI ROAD
EXISTING 4WD RANCH ROAD
EASEMENT A
EASEMENT B
SDH-1 CORE HOLE
MW-1
MW-2
PAD A
PAD B
PAD C
PAD D
PAD E
PAD F
HONUA SITE
UNIFORM 6

PUNA GEOTHERMAL VENTURE

WORST CASE "TYPE 1" HYDROGEN SULFIDE SCENARIO

MAP OF PREDICTED MAXIMUM OFF-SITE DISTANCE TO MODELLED AMBIENT HYDROGEN SULFIDE CONCENTRATION FROM EACH PGV WELL PAD UNDER "WORST CASE" METEOROLOGICAL CONDITIONS

DATE 1/8/92		FILE PGV\H2SMAP1.DWG
W. TEPLOW		FIGURE NO. 8-1

EXPLANATION

NOISE LEVEL CONTOURS (dBA)

33-83

A POSSIBLE NOISE SOURCE

PGV PROJECT AREA

N

HIGHWAY 130

PAHOA

NANWALE ESTATES

HIGHWAY 132

LEILANI ESTATES

45-85

51-101

39-89

33-83

27-77

POHOIKI ROAD

LIGHTHOUSE

KAPOHO

POHOIKI

PACIFIC OCEAN

OPIHIKAO ROAD

OPIHIKAO

PAHOA-KALAPANA ROAD

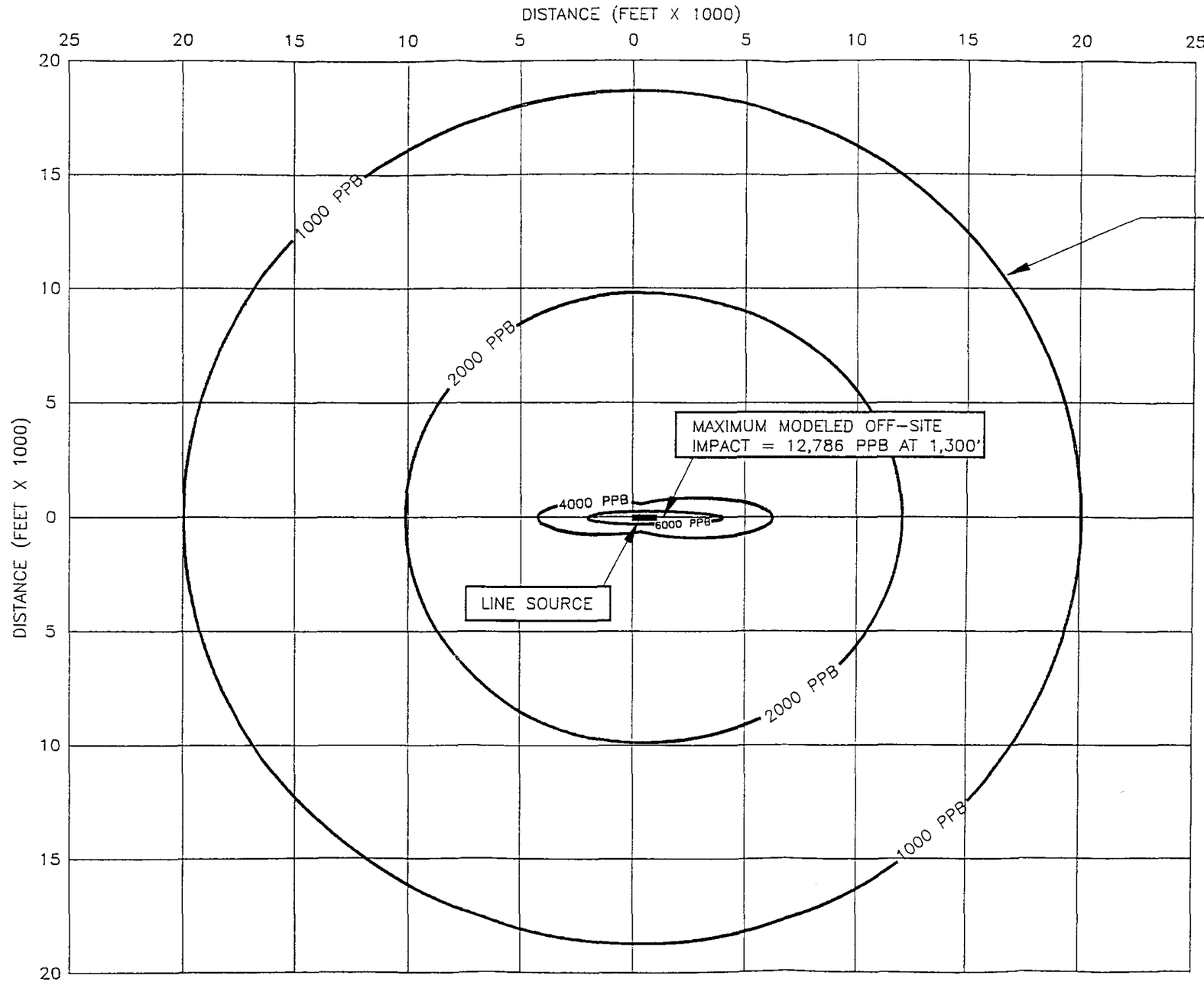
0 5000 10,000 FEET

SCALE

PUNA GEOTHERMAL VENTURE

PREDICTED NOISE LEVEL CONTOURS FOR A WELL BLOWOUT OR PIPELINE RUPTURE

DATE 12/12/91		pgv\wp8-4.dwg
BY W. TEPLOW		FIGURE 8-4



MAXIMUM EXTENT OF MODELED 1000 PPB HYDROGEN SULFIDE CONCENTRATION

EXPLANATION

4000 PPB — MODELED HYDROGEN SULFIDE ISOPLETH WITH CONCENTRATION SHOWN IN PARTS PER BILLION

0 5000 10000 FEET

SCALE

PUNA GEOTHERMAL VENTURE

WORST CASE "TYPE 2"
HYDROGEN SULFIDE SCENARIO

MODELED HYDROGEN SULFIDE ISOPLETHS
FOR SCENARIO 3,
HORIZONTAL DISCHARGE UNDER
"WORST CASE" METEOROLOGICAL CONDITIONS

DATE 1/9/92		FILE: PGV\ERP8-2.DWG
BY W. TEPLOW		FIGURE NO. 8-2

MW-3

EASEMENT B

MONITORING WELL MW-1

SOH-1

CORE HOLE

EASEMENT A

KAPOHO - PAHOA ROAD

TO PAHOA

EXPLANATION

MAXIMUM INJURY ZONE FOR A FIREBALL

MAXIMUM LIMIT OF FLAMMABILITY FOR A CLOUD OF PENTANE

ZONE OF POSSIBLE REDUCED HAZARD DUE TO TERRAIN EFFECTS

LOCATION OF ISOPENTANE TANKS

POWER PLANT

KS-12

KS-13

KS2

WELL PAD B

KS-10

KS-9

KS1

KS-11

KS1-A

PAD A

KS-8

KS-7A

PAD D

KS-7

PAD

KS-4

KS-3

KS-6

KS-5

PAD E

MONITORING WELL MW-2

LANIPUNA 6

HGP-A SITE

TO POHOIKI

LEGEND

PRODUCTION WELL (PROPOSED)

PRODUCTION WELL (EXISTING)

INJECTION WELL (PROPOSED)

PLUGGED WELL

GEOTHERMAL LEASE BOUNDARY

MONITORING STATION

RESIDENCE

0 500 1000 FEET

SCALE

N

PUNA GEOTHERMAL VENTURE

HAZARD LIMITS OF A FIRE OR LEAK INVOLVING PENTANE TANKS AT THE PGV POWER PLANT

DATE 12/13/91		pgv\erp8-3.dwg
BY W. TEPLOW		FIGURE 8-3